

JAN 23 2007

SEARCH REQUEST FORM

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Scientific and Technical Information Center

Requester's Full Name: Came Thompson Examiner #: 19241 Date: 1/22/07
Art Unit: 1774 Phone Number: 301-571-2213 Serial Number: 10/801 546
Mail Box and Bldg/Room Location: Room 10092 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Fluorescent Material, organic electroluminescence

Inventors (please provide full names):

Wataru Sotoyama

Earliest Priority Filing Date: 8/29/03

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please do a search on all claims

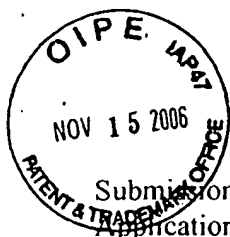
(A) formula 1 wherein two or more of
R₁ - R₁₂ each have a structure with
is represented by formula 2.

(B) formula 1 plus claims 19.
layer with formula 1 and aromatic
amine

Best Available Copy

STAFF USE ONLY

Searcher: EA Type of Search Vendors and cost where applicable
NA Sequence (#) STN \$ 402.17
Searcher Phone #: _____ AA Sequence (#) _____
Searcher Location: _____ Structure (#) (6) (substructure)
Date Searcher Picked Up: _____ Bibliographic (and) Dr. Link _____
Date Completed: 1-24-07 Litigation (and) Lexis/Nexis _____
Searcher Prep & Review Time: 10 Fulltext _____ Sequence Systems _____
Clerical Prep Time: _____ Patent Family _____ WWW/Internet _____
Online Time: 90 Other _____ Other (specify) _____

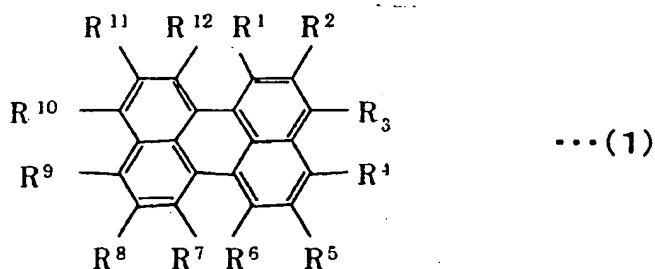


Submission under CFR 1.114
Application No. 10/801,546
Attorney Docket No. 042122

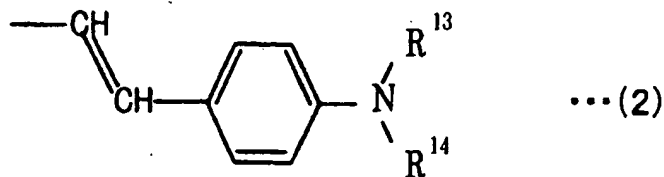
AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions of claims in the application.

1. (Currently Amended): A fluorescent material comprising ~~either one or both of a perylene compound represented by formula (1) below and an anthanthrene compound represented by formula (101) below:~~

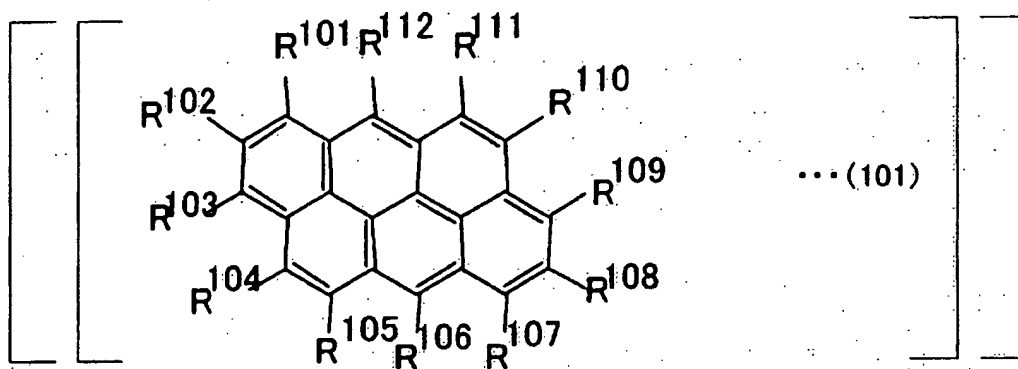


(in formula (1), two or more of R^{1-12} , each, have a structure represented by formula (2) below, with the rest being hydrogen),

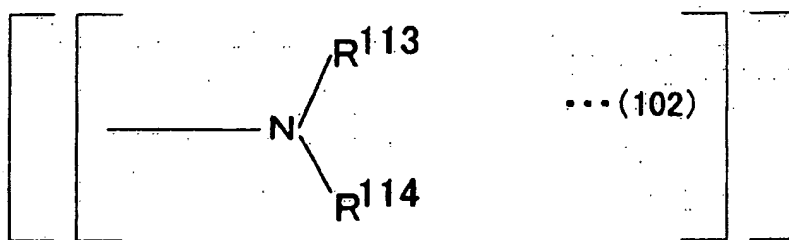


(in formula (2), R^{13} and R^{14} are, independently from each other, an aromatic group that may be substituted, or an aliphatic group that may be substituted, wherein R^{13} and R^{14} may be bonded with

each other, directly or via a bonding group), and



(in formula (101), four of $R^{101-112}$, each, have a structure represented by formula (102) below, with the rest being hydrogen),



(in formula (102), R^{113} and R^{114} are, independently from each other, a phenyl or naphthyl group that has a substituent group selected from the class consisting of an aryl group, an alkoxy group, an aryloxy group, a dialkylamino group and a diarylamino group, and the substituent group may also be substituted, wherein R^{113} and R^{114} may be bonded with each other, directly or via a bonding group).

2. (Original): A fluorescent material according to claim 1, wherein two of said R^{1-12} has a

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structure represented by formula (2), with the rest being hydrogen.

3. (Cancelled).

4. (Currently Amended): A fluorescent material according to claim 2, wherein said R^{13} and R^{14} are, independently from each other, a phenyl or naphthyl group that may be substituted.

5. (Previously Presented): A fluorescent material according to claim 4, wherein said phenyl group or naphthyl group, of R^{13} and R^{14} , has a substituent group selected from the class consisting of an alkyl group, an aryl group, an alkoxy group, an aryloxy group, a dialkylamino group and a diarylamino group, and the substituent group may also be substituted.

6. (Cancelled).

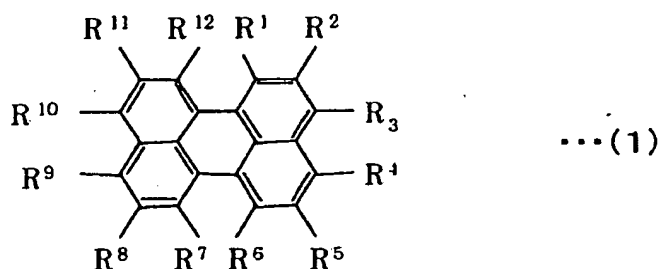
7. (Cancelled).

8. (Previously Presented): A fluorescent material according to claim 4 for use as an organic light-emitting layer forming material for an organic electroluminescent element.

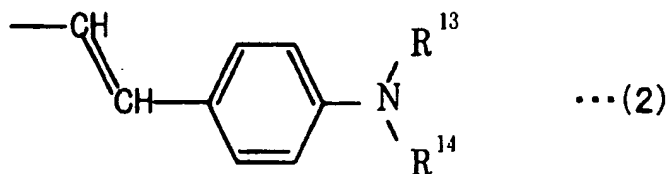
9. (Original): A fluorescent material according to claim 8 for use as an organic light-emitting layer forming material in the capacity of a host or a guest for an organic electroluminescent element.

10. (Previously Presented): An organic electroluminescent element having an organic light-emitting layer between an anode and a cathode, said organic light-emitting layer comprising a fluorescent material according to one of claims 1, 2, 4 and 5.

11. (Original): An organic electroluminescent element having an organic light-emitting layer between an anode and a cathode, said organic light-emitting layer using a perylene compound represented by formula (1) below as a fluorescent material:



(in formula (1), two of R^{1-12} , each, have a structure represented by formula (2) below, with the rest being hydrogen),



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(in formula (2), R^{13} and R^{14} are, independently from each other, an aromatic group that may be substituted, or an aliphatic group that may be substituted, wherein R^{13} and R^{14} may be bonded with each other, directly or via a bonding group).

12. (Original): An organic electroluminescent element according to claim 11, wherein said R^{13} and R^{14} are, independently from each other, a phenyl or naphthyl group that may be substituted.

13. (Original): An organic electroluminescent element according to claim 12, wherein, said phenyl group or naphthyl group has a substituent group selected from the class consisting of an alkyl group, an aryl group, an alkoxy group, an aryloxy group, a dialkylamino group and a diarylamino group, and the substituent group may also be substituted.

14. (Cancelled).

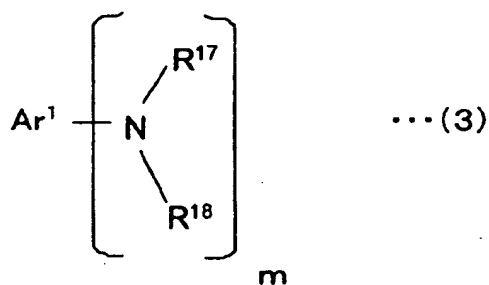
15. (Cancelled).

16. (Cancelled).

17. (Original): An organic electroluminescent element according to claim 10, wherein said fluorescent material is an organic light-emitting layer forming material in the capacity of a host or a guest.

18. (Currently Amended): An organic electroluminescent element according to one of claims 11 to [[16]] 13, wherein said fluorescent material is an organic light-emitting layer forming material in the capacity of a host or a guest.

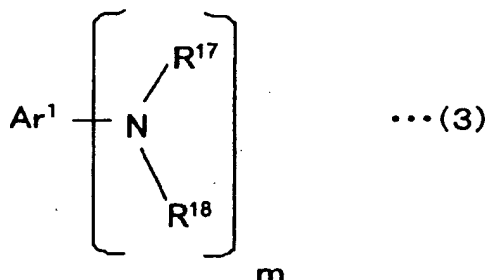
19. (Currently Amended): An organic electroluminescent element according to claim 10, wherein said organic light-emitting layer comprises a mixture of said fluorescent material and an aromatic amine compound represented by formula (3) below as an organic light-emitting layer forming material:



(in formula (102), R^{+13} and R^{+14} are, independently from each other, an aromatic group that may be substituted, or an aliphatic group that may be substituted, wherein R^{+13} and R^{+14} may be bonded with

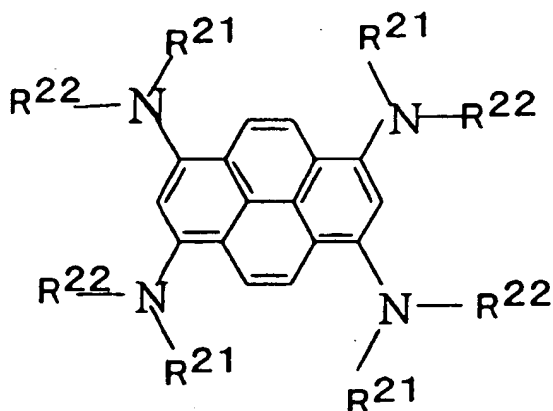
each other, directly or via a bonding group wherein Ar¹ is an aromatic group with a bonding valency of 2, 3 or 4 that may be substituted; R¹⁷ and R¹⁸ are, independently from each other, a monovalent aromatic group that may be substituted; and m is an integer of 2-4).

20. (Currently Amended): An organic electroluminescent element according to one of claims 11 to [[16]] 13, wherein said organic light-emitting layer comprises a mixture of said fluorescent material and an aromatic amine compound represented by formula (3) below as an organic light-emitting layer forming material:



(wherein Ar¹ is an aromatic group with a bonding valency of 2, 3 or 4 that may be substituted; R¹⁷ and R¹⁸ are, independently from each other, a monovalent aromatic group that may be substituted; and m is an integer of 2-4).

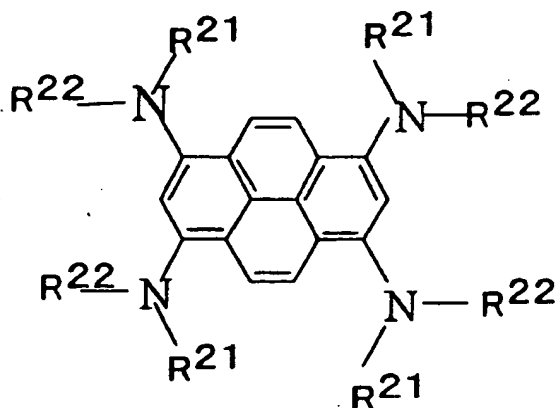
21. (Original): An organic electroluminescent element according to claim 19, wherein said aromatic amine compound represented by formula (3) is a tetra(diarylamino)-substituted pyrene represented by formula (4) below:



... (4)

(wherein R²¹ and R²² are, independently from each other, a monovalent aromatic group).

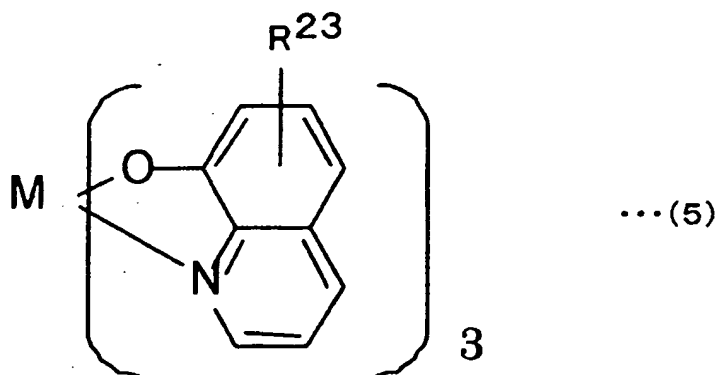
22. (Original): An organic electroluminescent element according to claim 20, wherein said aromatic amine compound represented by formula (3) is a tetra(diarylamino)-substituted pyrene represented by formula (4) below:



... (4)

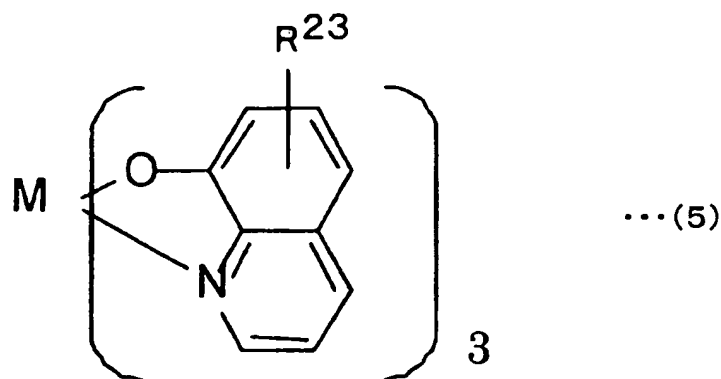
(wherein R²¹ and R²² are, independently from each other, a monovalent aromatic group).

23. (Original): An organic electroluminescent element according to claim 10, wherein said organic light-emitting layer comprises, as an organic light-emitting layer forming material, a mixture of said fluorescent material and a hydroxyquinoline complex represented by formula (5) below:



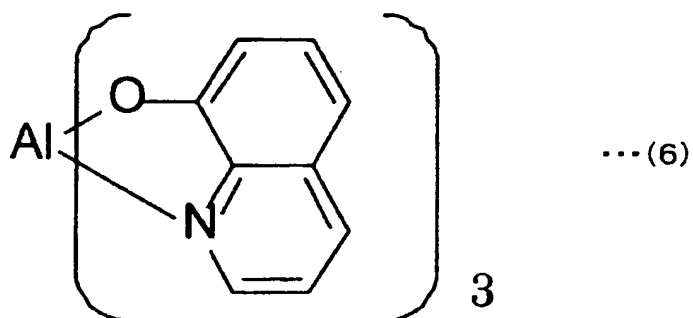
(wherein R^{23} is hydrogen or an alkyl group that may be substituted; and M is a metal having a valency of 3).

24. (Currently Amended): An organic electroluminescent element according to one of claims 11-[[16]] 13, wherein said organic light-emitting layer comprises, as an organic light-emitting layer forming material, a mixture of said fluorescent material and a hydroxyquinoline complex represented by formula (5) below:

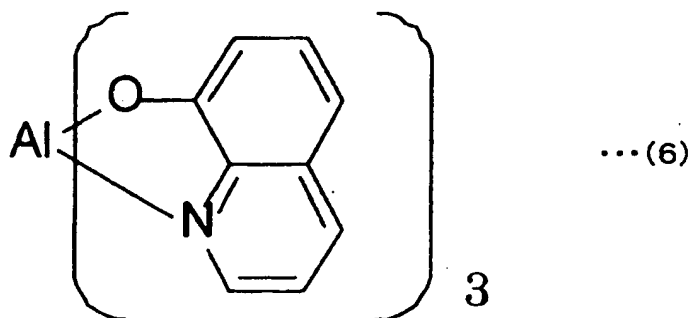


(wherein R^{23} is hydrogen or an alkyl group that may be substituted; and M is a metal having a valency of 3).

25. (Original): An organic electroluminescent element according to claim 23, wherein said hydroxyquinoline complex is an aluminum hydroxyquinoline complex represented by formula (6) below:



26. (Original): An organic electroluminescent element according to claim 24, wherein said hydroxyquinoline complex is an aluminum hydroxyquinoline complex represented by formula (6) below:



27. (Original): An organic electroluminescent element according to claim 10, wherein said organic light-emitting layer consists of a single layer of a fluorescent material.

28. (Currently Amended): An organic electroluminescent element according to one of claims 11 to [[16]] 13, wherein said organic light-emitting layer consists of a single layer of a fluorescent material.

29. (Original): An organic electroluminescent display using an organic electroluminescent element according to claim 10.

30. (Currently Amended): An organic electroluminescent display using an organic electroluminescent element according to one of claims 11 to [[16]] 13.

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31. (Original): An organic electroluminescent display using an organic electroluminescent element according to claim 18.

32. (Original): An organic electroluminescent display using an organic electroluminescent element according to claim 20.

33. (Original): An organic electroluminescent display using an organic electroluminescent element according to claim 22.

34. (Original): An organic electroluminescent display using an organic electroluminescent element according to claim 24.

35. (Original): An organic electroluminescent display using an organic electroluminescent element according to claim 26.

36. (Original): An organic electroluminescent display using an organic electroluminescent element according to claim 28.

=> FILE REG

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L26 6 S L14 AND L24
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L28 10 S L14 NOT L27
L29 9 S 1840-2003/PY, PRY AND L27
L30 10 S 1840-2003/PY, PRY AND L28
L31 2 S L14 AND (L15 OR L16)

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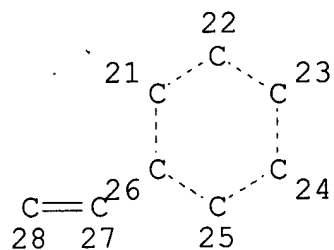
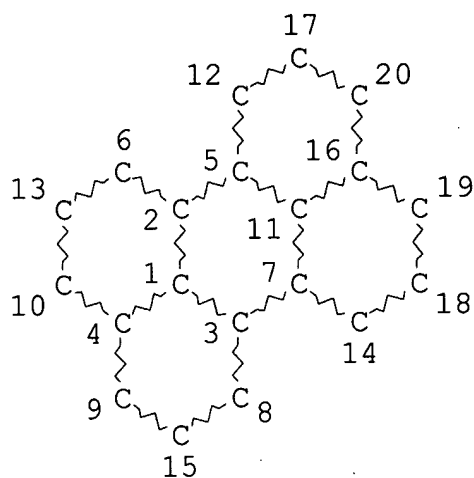
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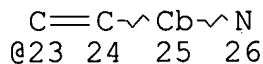
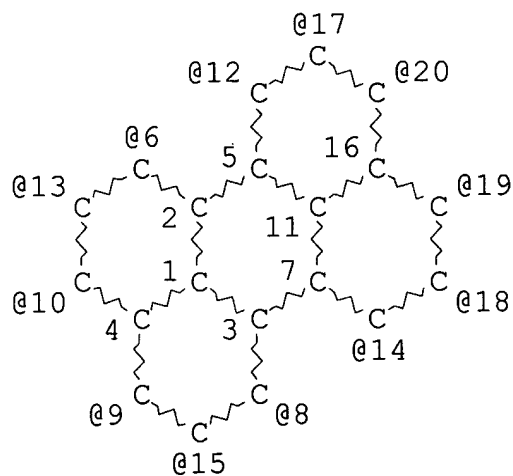
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 DEFAULT ECLEVEL IS LIMITED

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STEREO ATTRIBUTES: NONE

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VPA 23-19/18/14/8/15/9/10/13/6/12/17/20 U

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=> D L36 1 CBIB ABS HITSTR HITIND

L36 ANSWER 1 OF 1 ZCA COPYRIGHT 2007 ACS on STN
142:268913 Fluorescent material, organic electroluminescent element and
organic electroluminescent display. Sotoyama, Wataru (Fujitsu
Limited, Japan). U.S. Pat. Appl. Publ. US 2005048313 A1 20050303,
25 pp. (English). CODEN: USXXCO. APPLICATION: US 2004-801546
20040317. PRIORITY: JP 2003-305621 20030829.

AB The invention refers to an org. electroluminescent element having an
org. light-emitting layer between an anode and a cathode, wherein
the org. light-emitting layer comprises, as an org. light-emitting
layer forming material, a fluorescent material comprising a perylene
compd. I [R1-12 = H or -CH:CH-Ph-N(R13)R14, wherein two or more are
not H; R13,14 = (un)substituted arom. or aliph. and may be bonded to
each other] and/or an anthanthrene compd. II [R101-112 = H or
N(R113)R114, wherein 4 or more are not H; R113,114 = (un)substituted
arom. or aliph. and may be bonded to each other]. A fluorescent
material that emits red light with a high color purity and a high
luminous efficiency-when used singly or as a guest, an org. EL
element having a high luminous efficiency, and a high-performance
org. EL display having a high luminous efficiency are realized.

IT 845896-91-5P 845896-93-7P 845896-99-3P
845897-00-9P

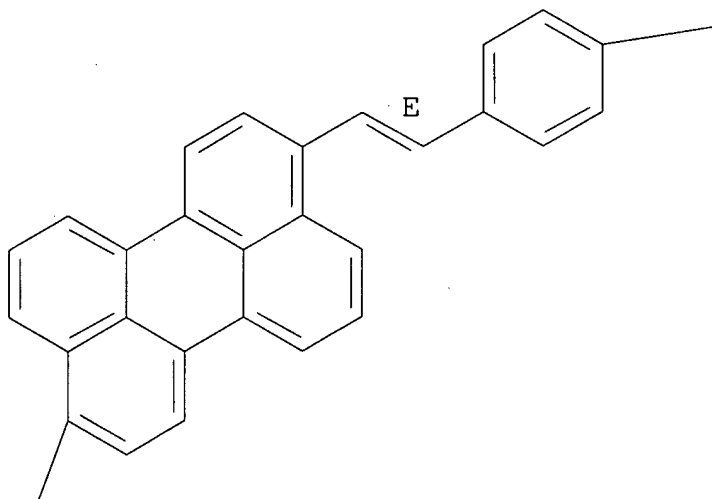
(fluorescent material, org. electroluminescent element and org. electroluminescent display using perylene and anthanthrene derivs.)

RN 845896-91-5 ZCA

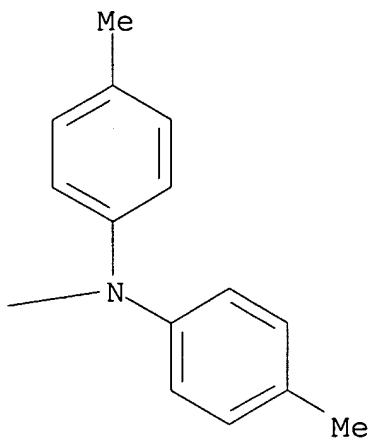
CN Benzenamine, 4,4'-[3,9-perylenediyl-di-(1E)-2,1-ethenediyl]bis[N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

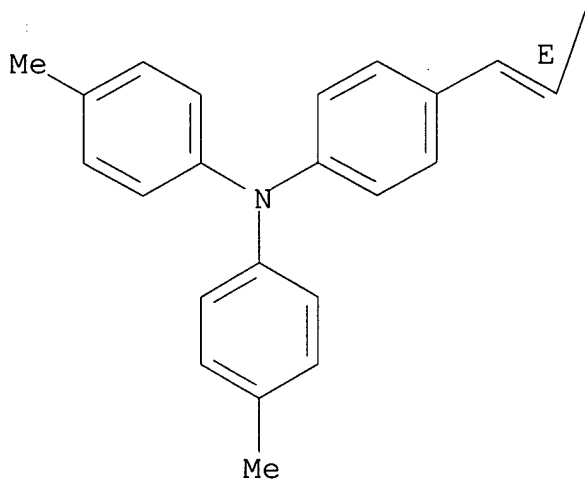
PAGE 1-A



PAGE 1-B



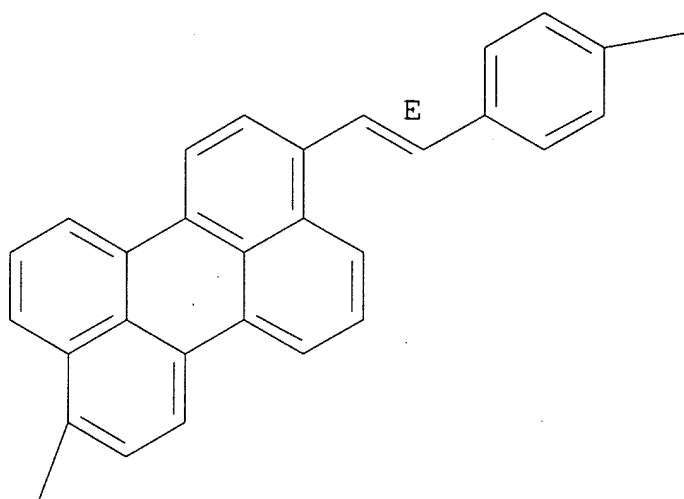
PAGE 2-A



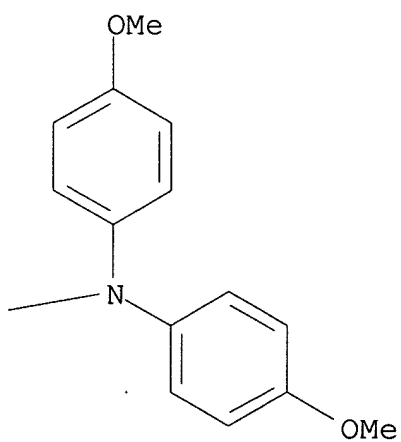
RN 845896-93-7 ZCA
 CN Benzenamine, 4,4'-[3,9-perylenediyl-di-(1E)-2,1-ethenediyl]bis[N,N-bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)

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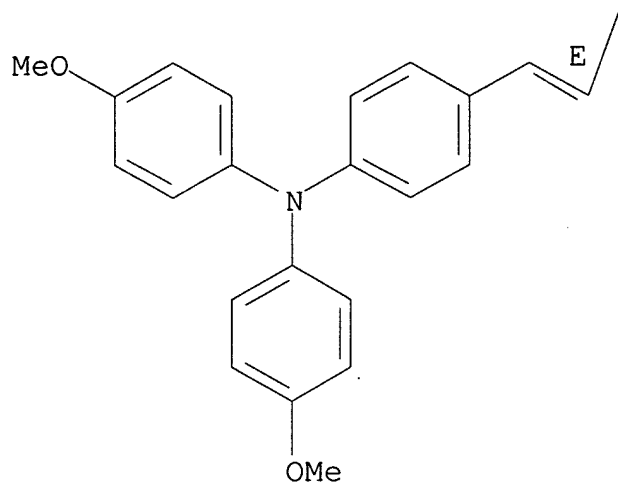
PAGE 1-A



PAGE 1-B



PAGE 2-A

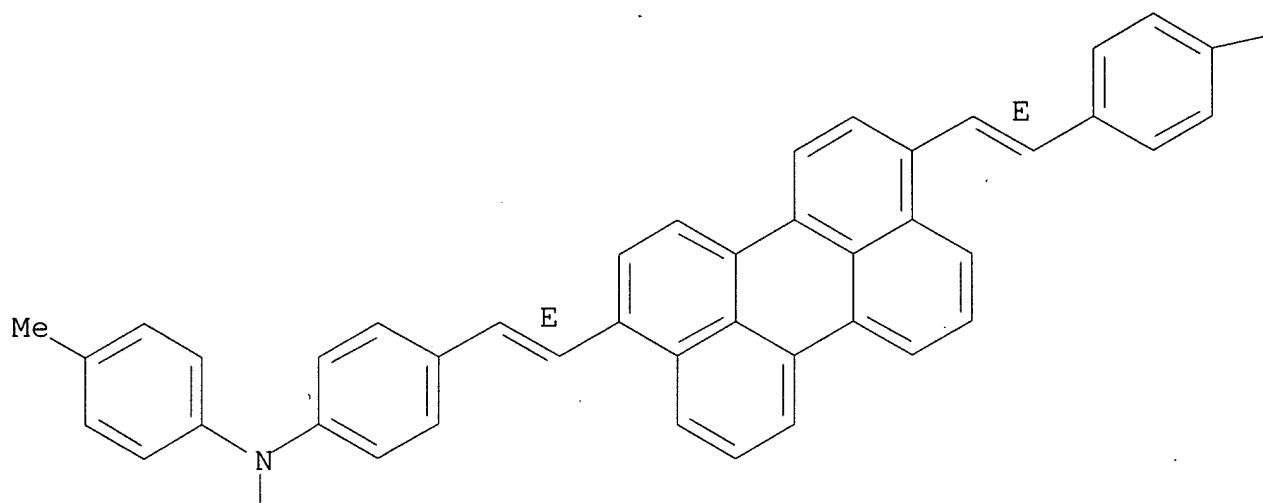


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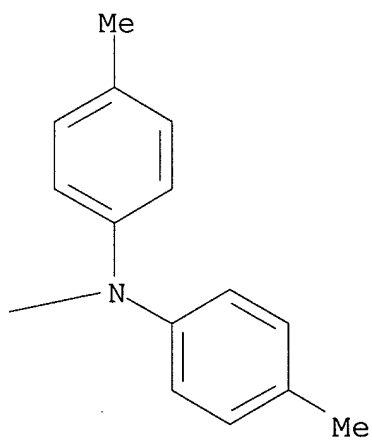
CN Benzenamine, 4,4'-[3,10-perylenediyl-di-(1E)-2,1-ethenediyl]bis[N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)]

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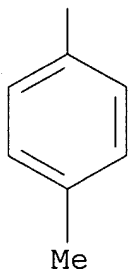
PAGE 1-A



PAGE 1-B



PAGE 2-A

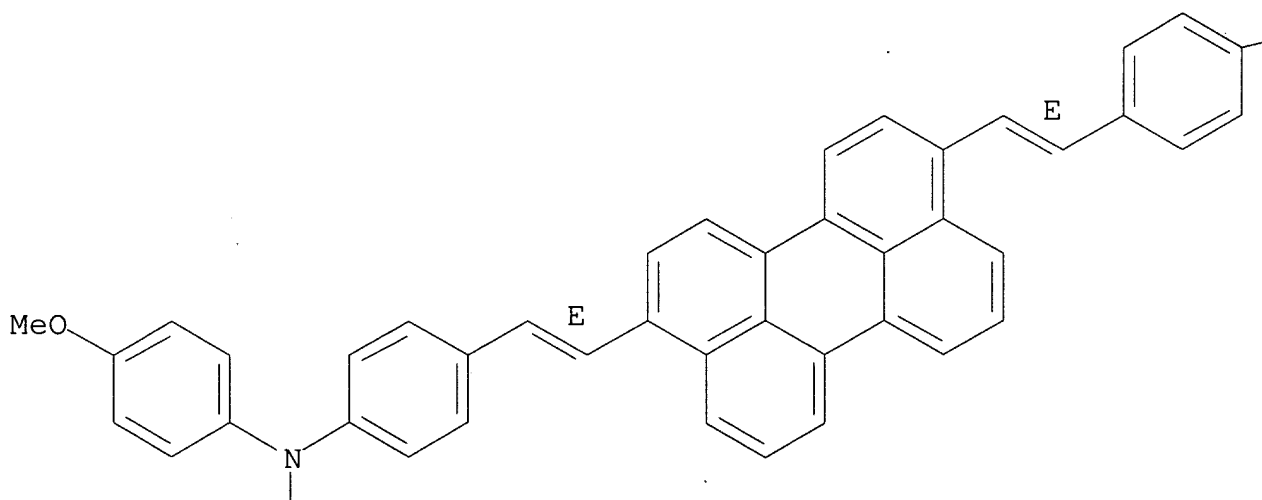


RN 845897-00-9 ZCA

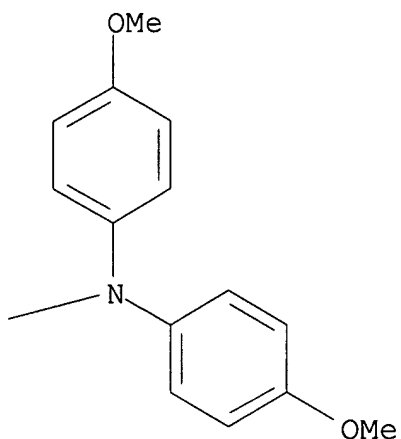
CN Benzenamine, 4,4'-[3,10-perylenediyl-di-(1E)-2,1-ethenediyl]bis[N,N-bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)]

Double bond geometry as shown.

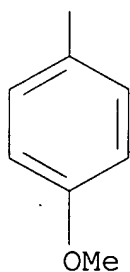
PAGE 1-A



PAGE 1-B



PAGE 2-A



IC ICM H05B033-14
ICS C09K011-06
INCL 428690000; 428917000; 313504000; 313506000; 252301160
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 74
IT **845896-91-5P 845896-93-7P** 845896-94-8P
845896-97-1P 845896-98-2P **845896-99-3P**
845897-00-9P
(fluorescent material, org. electroluminescent element and org. electroluminescent display using perylene and anthanthrene derivs.)

=> D L37 1-9 CBIB ABS HITSTR HITIND

L37 ANSWER 1 OF 9 ZCA COPYRIGHT 2007 ACS on STN



(Looked pretty junky structurally from here on out.)

140:245588 Fluorescent glycosides and methods for their use. Kool, Eric T.; Gao, Jianmin (The Board of Trustees of the Leland Stanford Junior University, USA). PCT Int. Appl. WO 2004019002 A2 20040304, 50 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2003-US26482 20030822. PRIORITY: US 2002-405549P 20020823.

AB Fluorescent glycosides contg. arom. hydrocarbon groups are useful in labeling and detection methods for a wide array of chem. and biol. mols. Assembly of multiple analogs to form polyfluors affords fluorescence properties that are different from the properties of the component analogs. This allows for the design and use of combinatorial libraries of mols. displaying widely varying fluorescence colors.

IT 473906-68-2 473906-70-6 667457-99-0
667458-00-6 667458-02-8 667458-03-9
667458-04-0 667458-15-3 667458-16-4
667458-17-5 667458-18-6 667458-20-0
667458-21-1 667458-22-2 667458-23-3
667458-24-4 667458-25-5 667458-26-6
667458-27-7 667458-28-8 667458-29-9
667458-30-2 667458-32-4 667458-33-5
667458-35-7 667458-37-9 667458-39-1
667458-40-4 667458-42-6

(fluorescent glycosides as labels for chem. and biol. mols.)

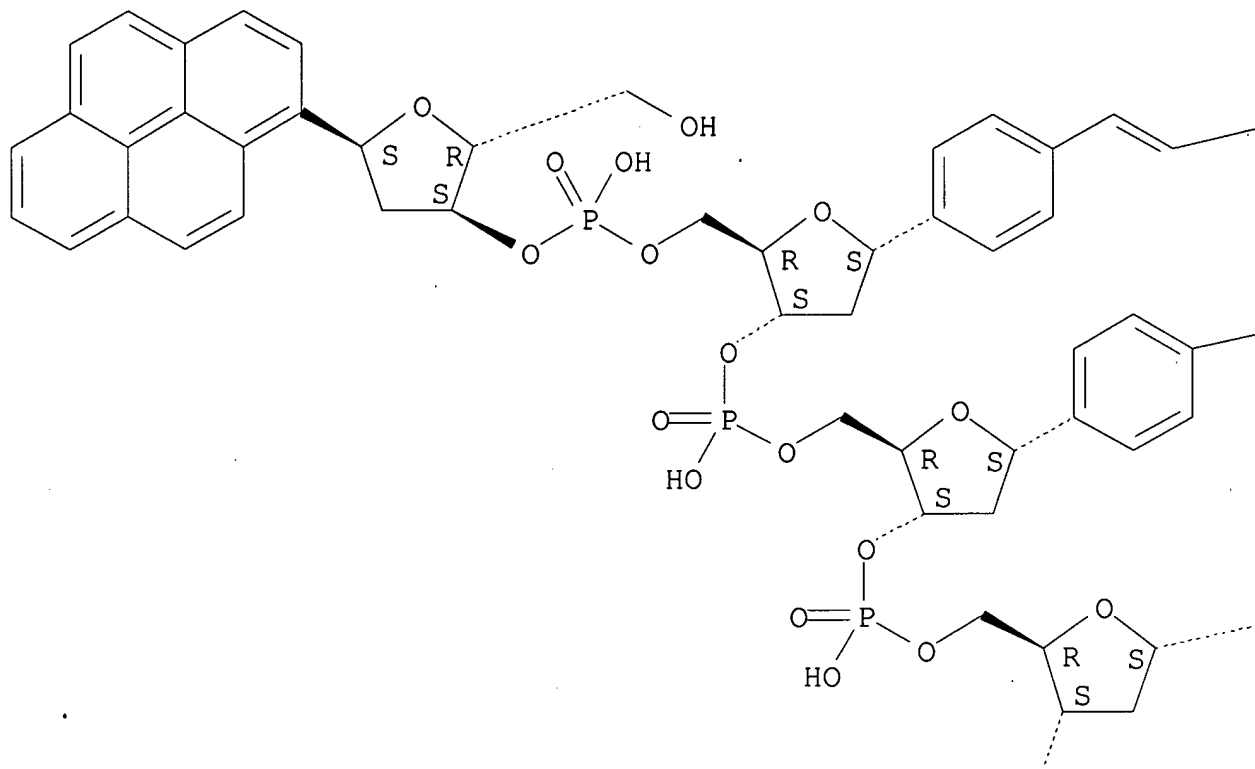
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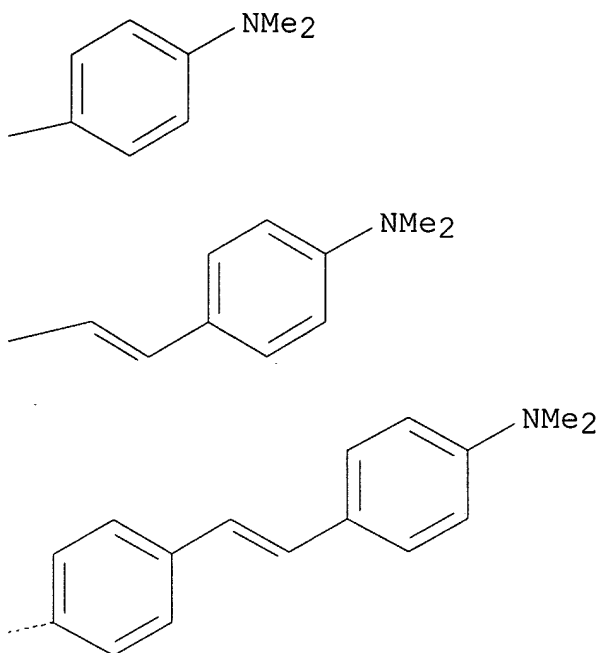
Absolute stereochemistry.

Double bond geometry unknown.

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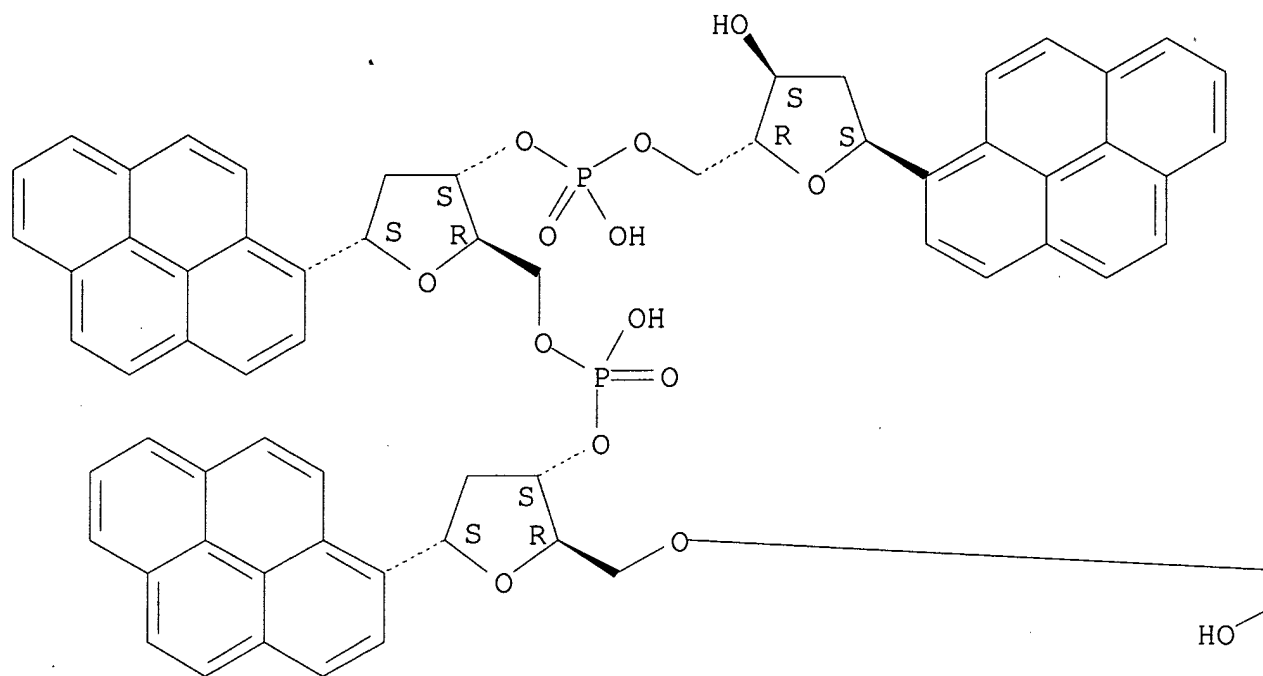
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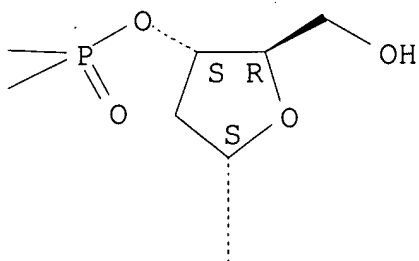
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Absolute stereochemistry.

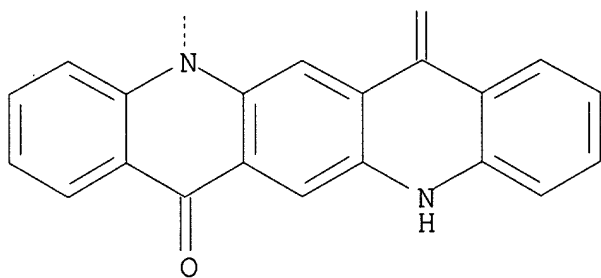
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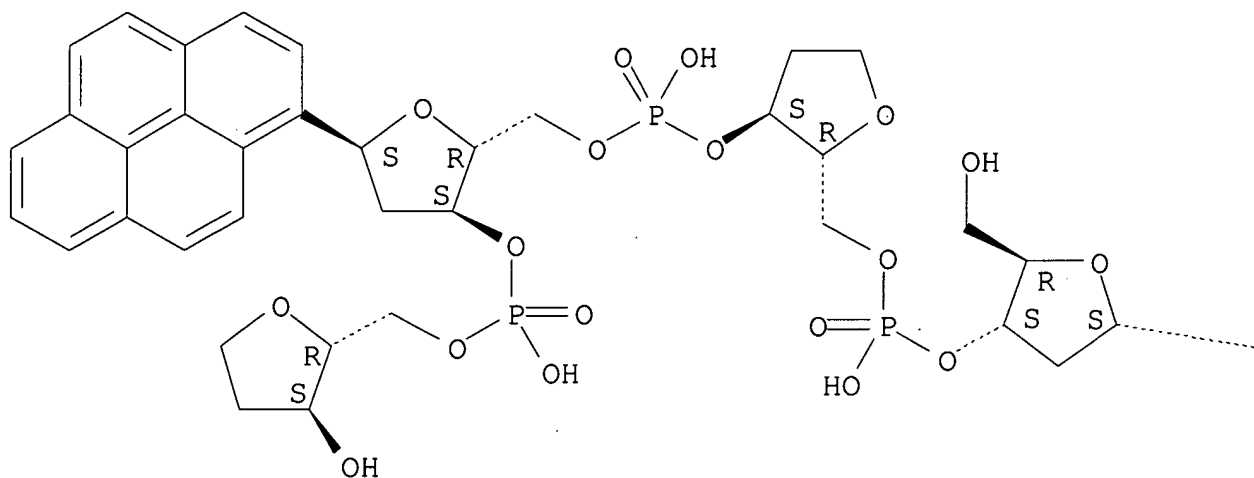
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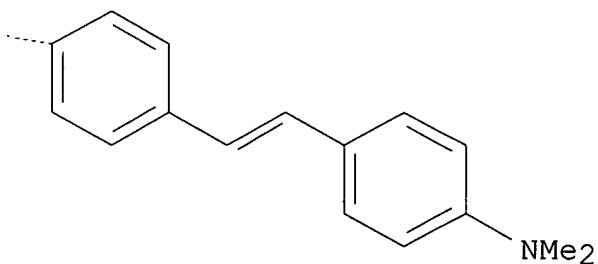
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Absolute stereochemistry.
Double bond geometry unknown.

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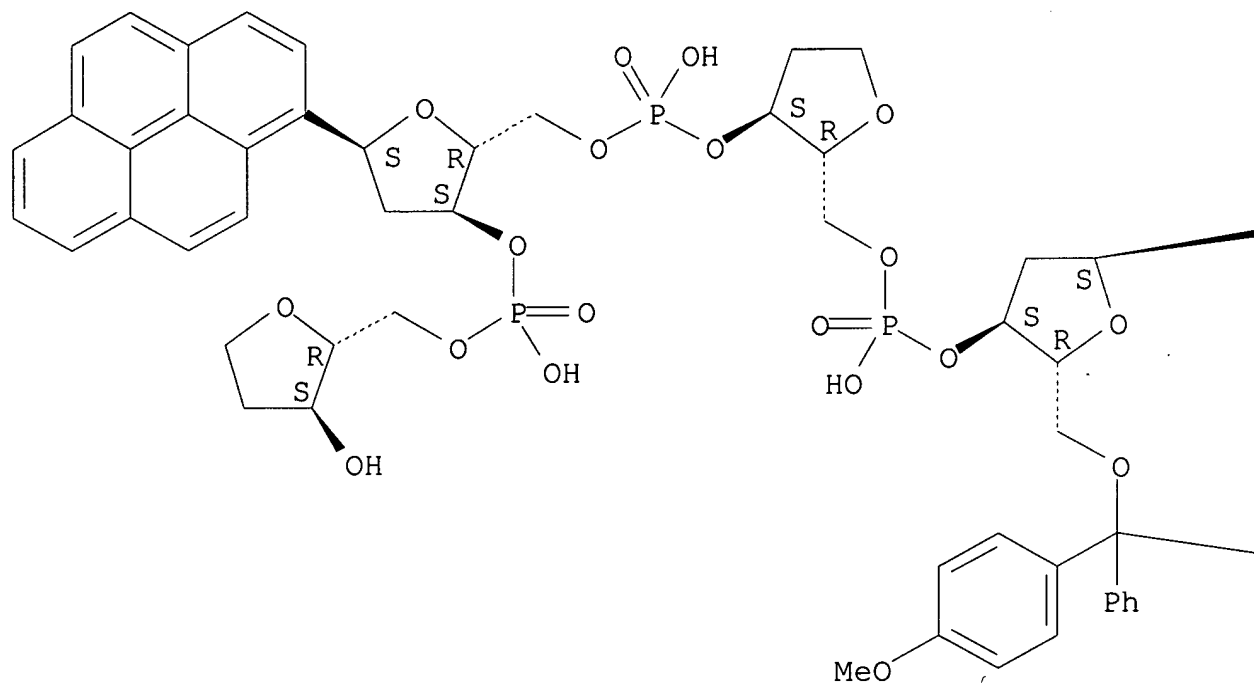


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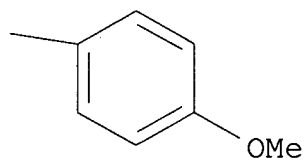
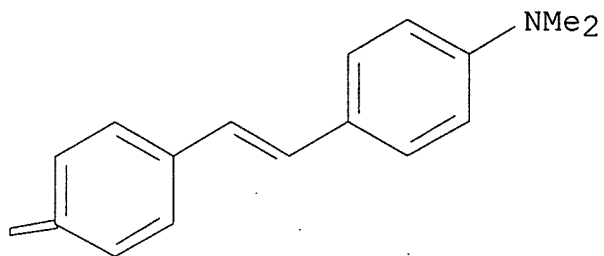
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1'-(1-pyrenyl)- α -adenylyl-(3' \rightarrow 5')-1'-de(6-amino-9H-
purin-9-yl)-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

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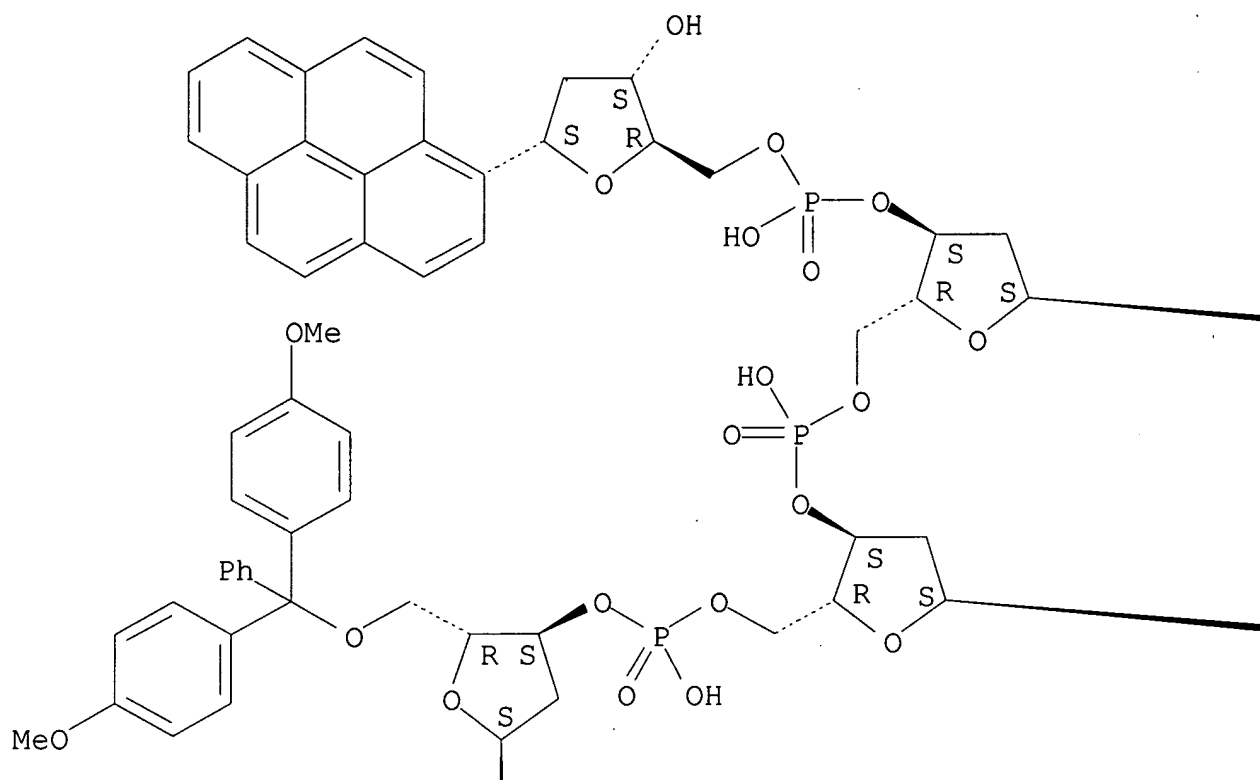
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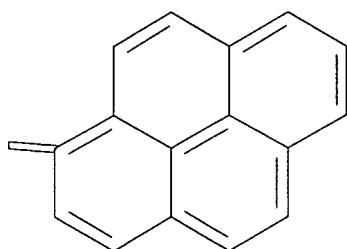
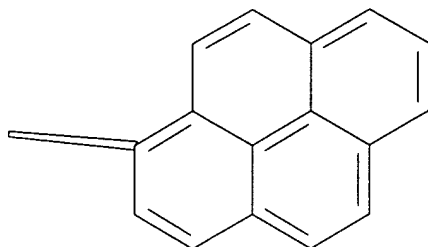
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Absolute stereochemistry.

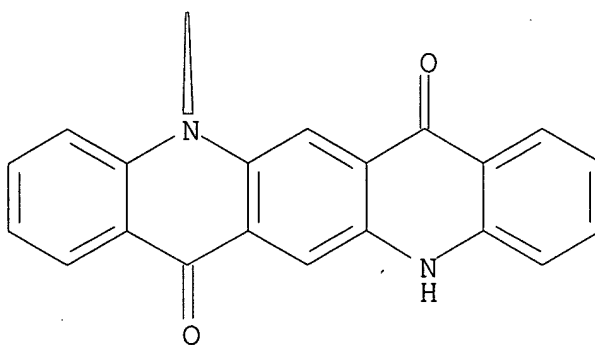
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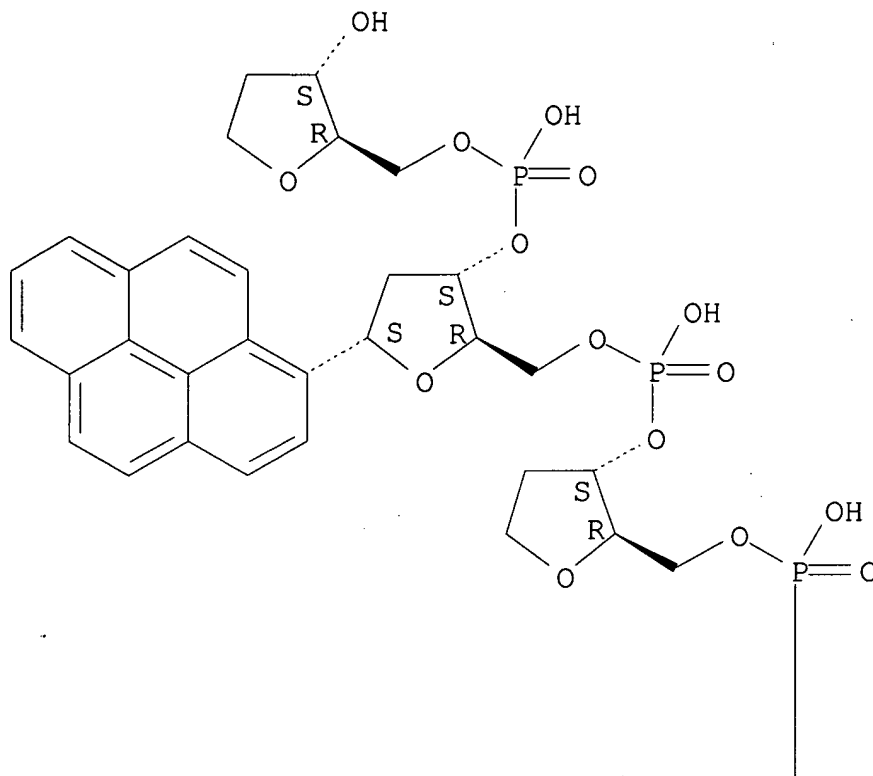
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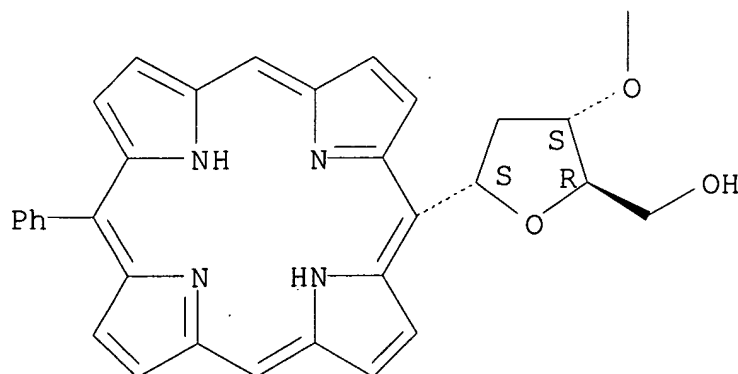
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Absolute stereochemistry.

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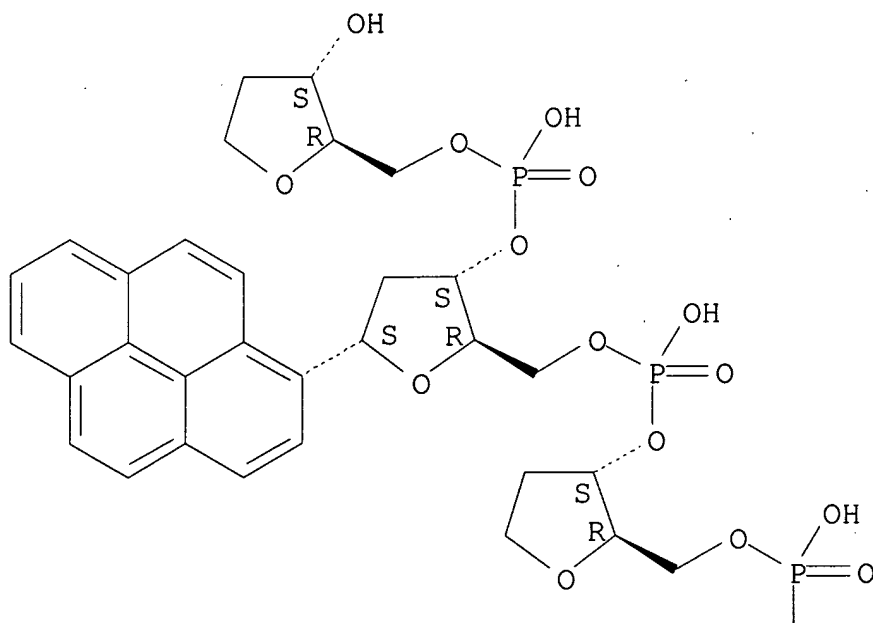


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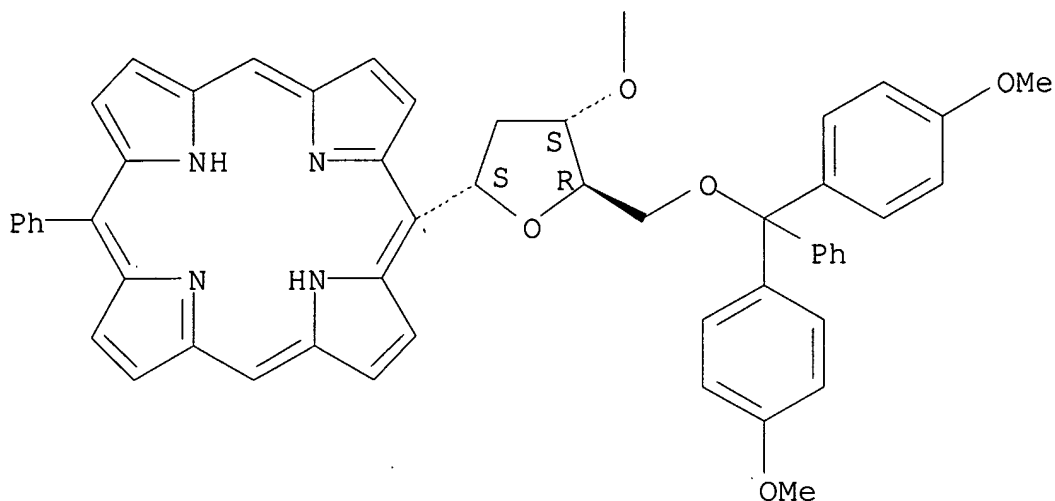
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purin-9-yl)-2'-deoxy- (9CI) (CA INDEX NAME)
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Absolute stereochemistry.

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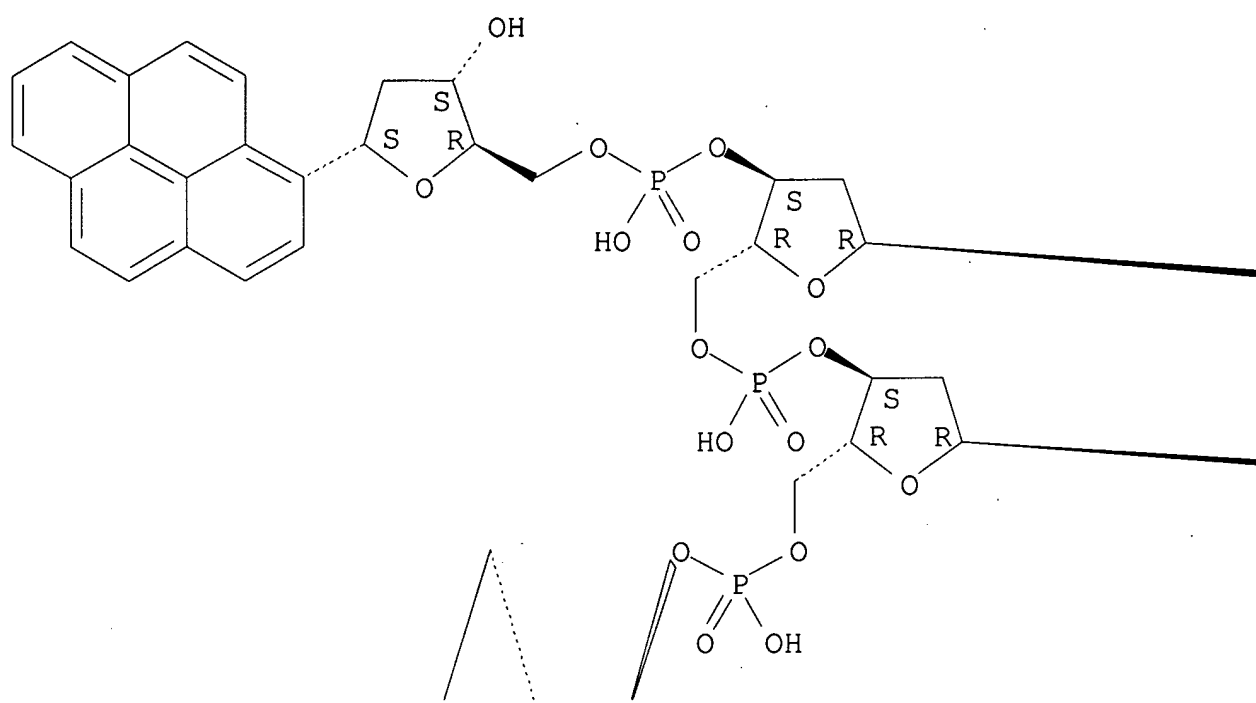
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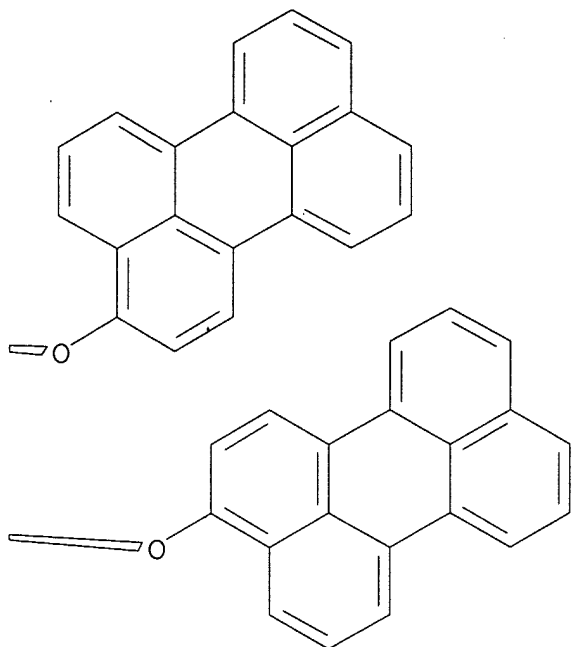
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Absolute stereochemistry.

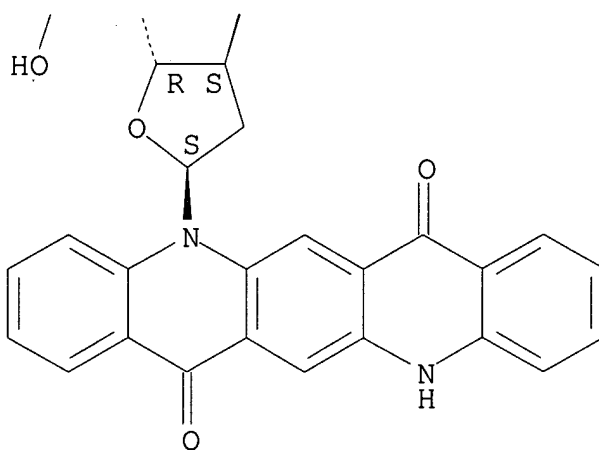
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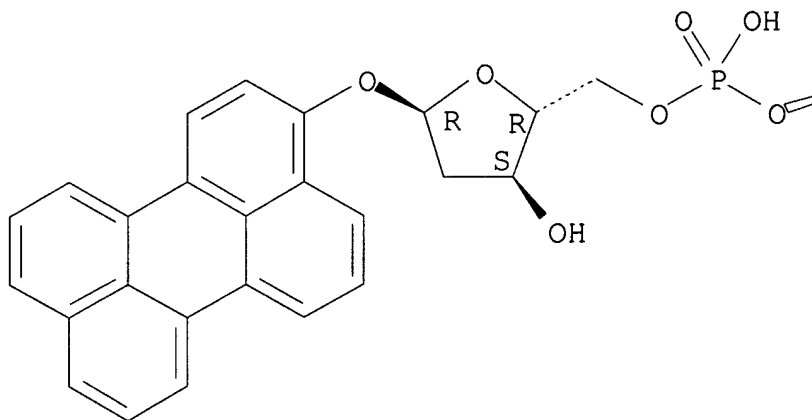


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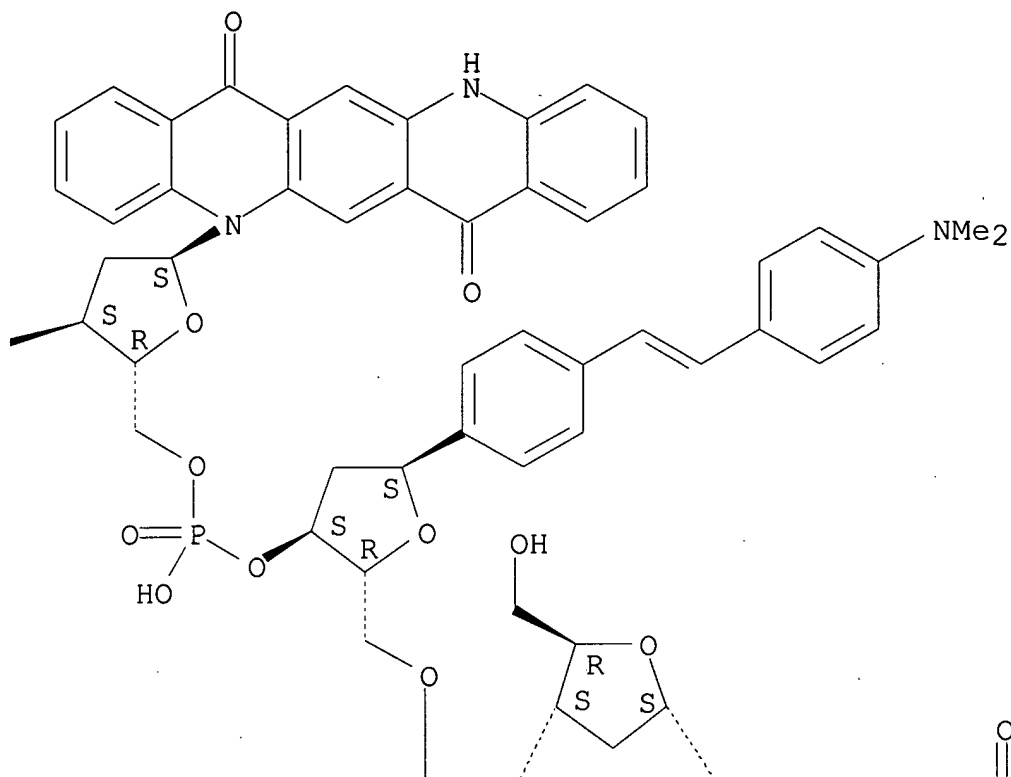
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Absolute stereochemistry.
Double bond geometry unknown.

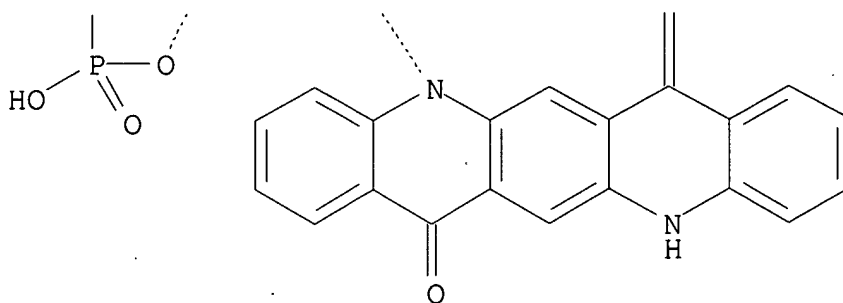
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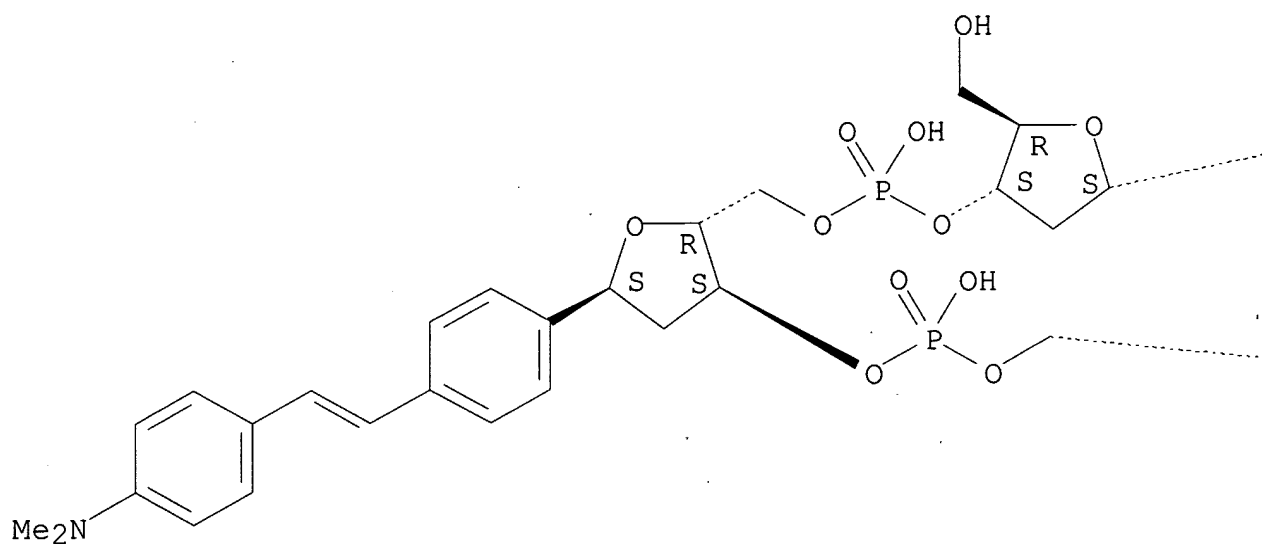


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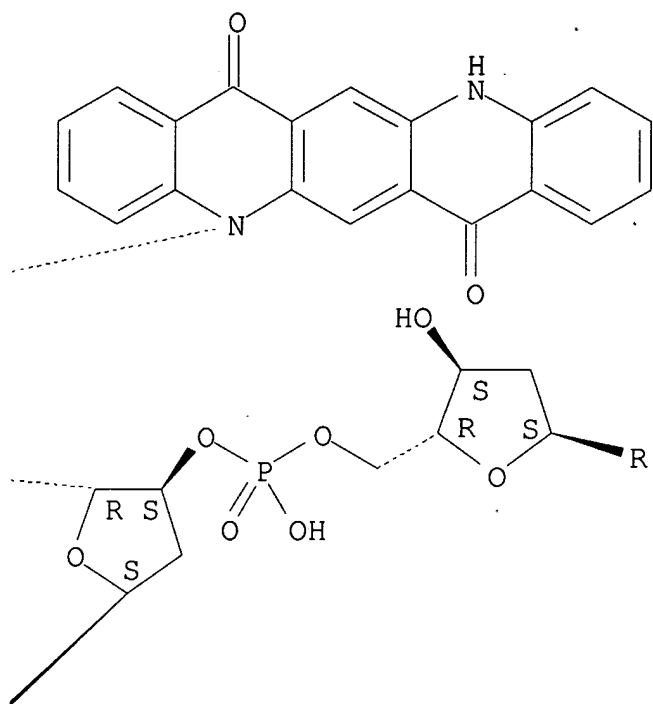
deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)-
(9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

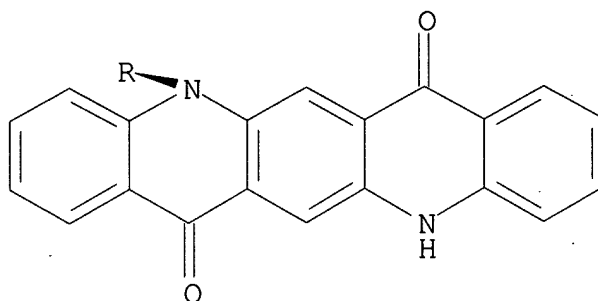
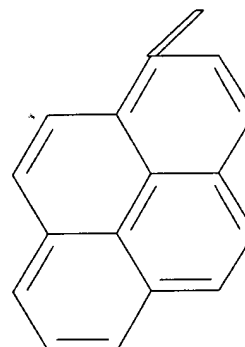
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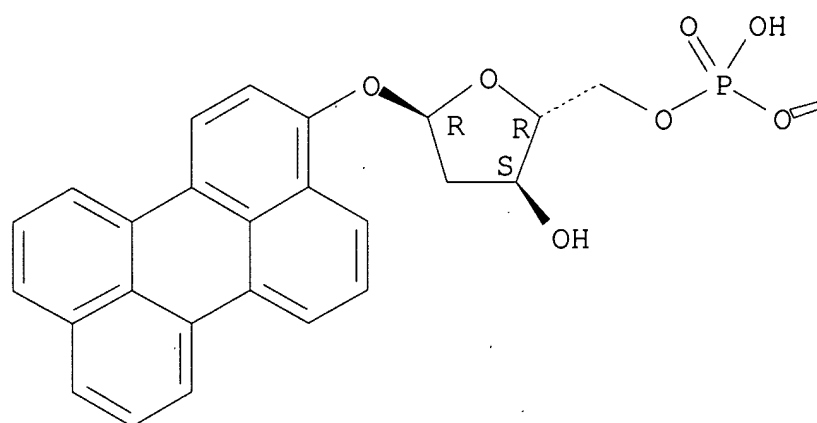
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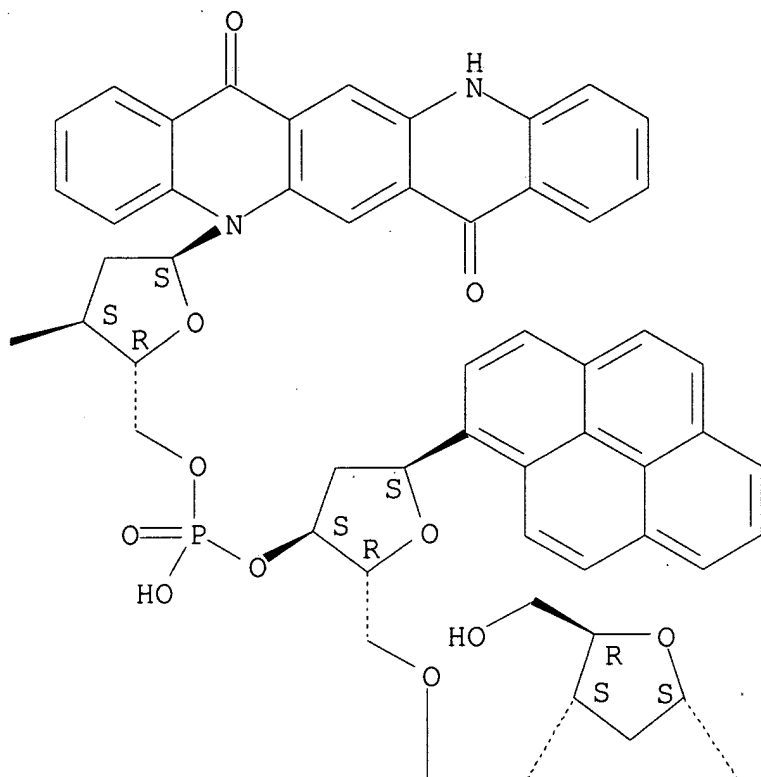
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Absolute stereochemistry.

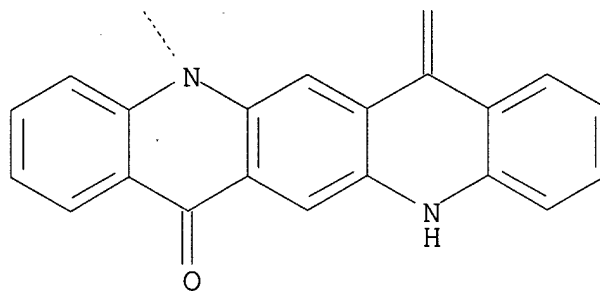
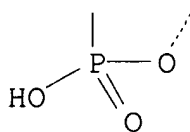
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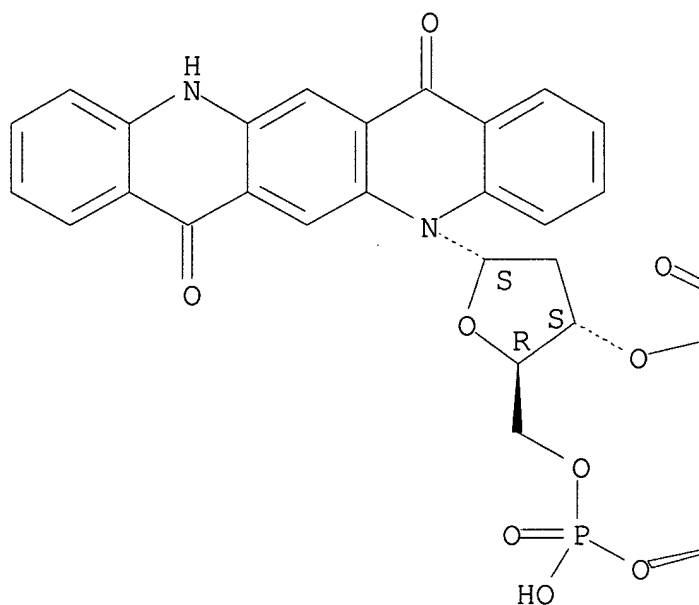


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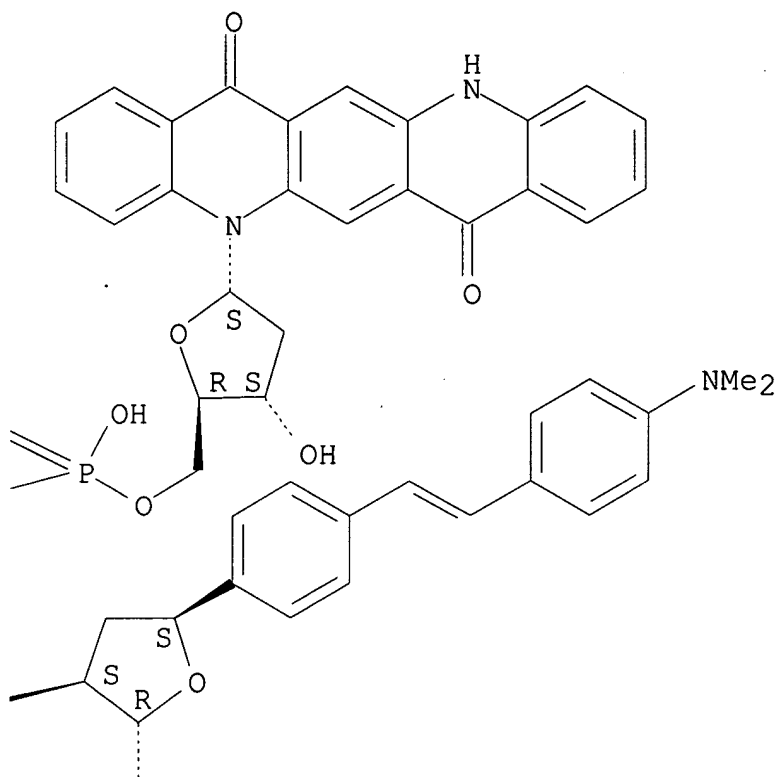
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(9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

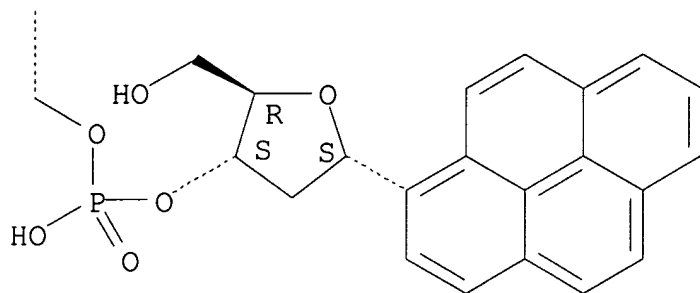
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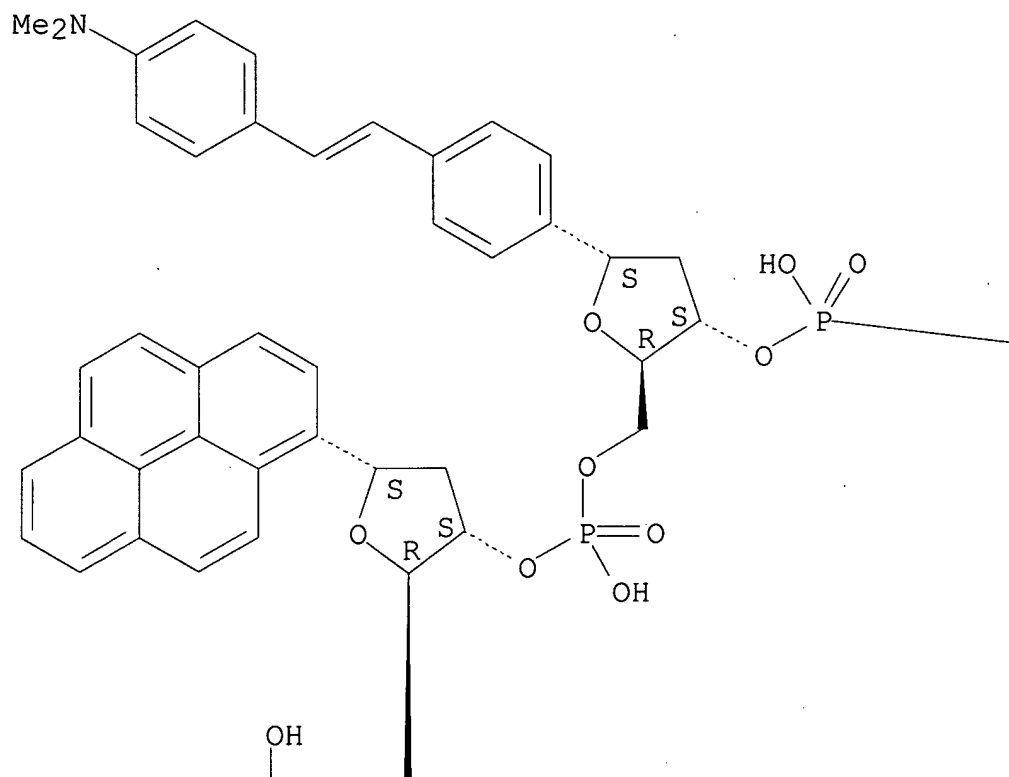


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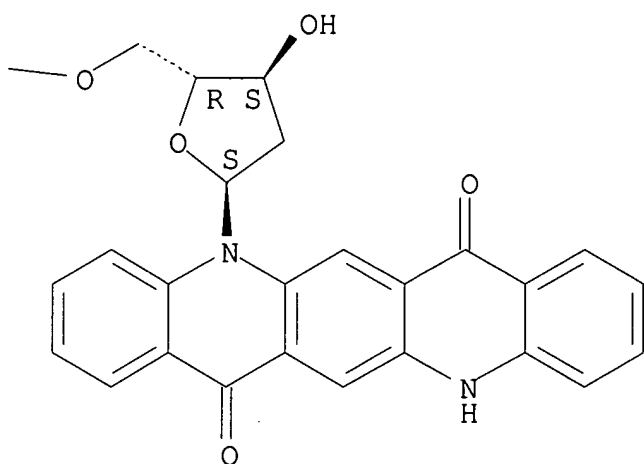
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Absolute stereochemistry.
Double bond geometry unknown.

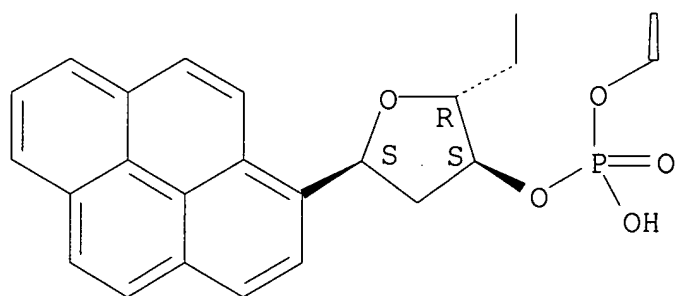
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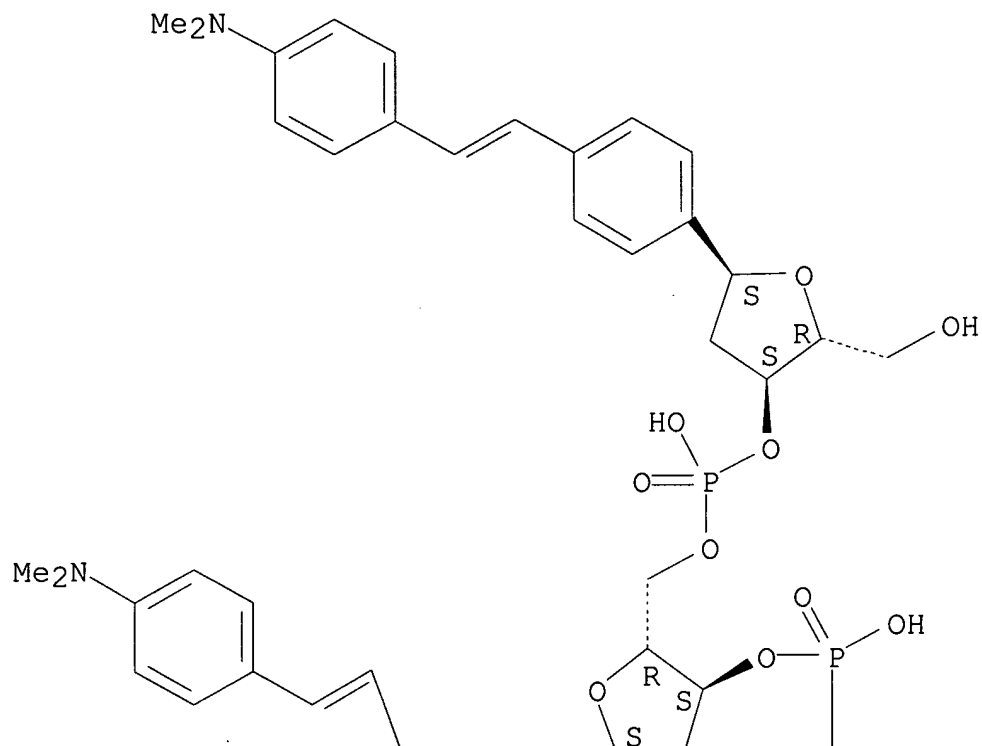


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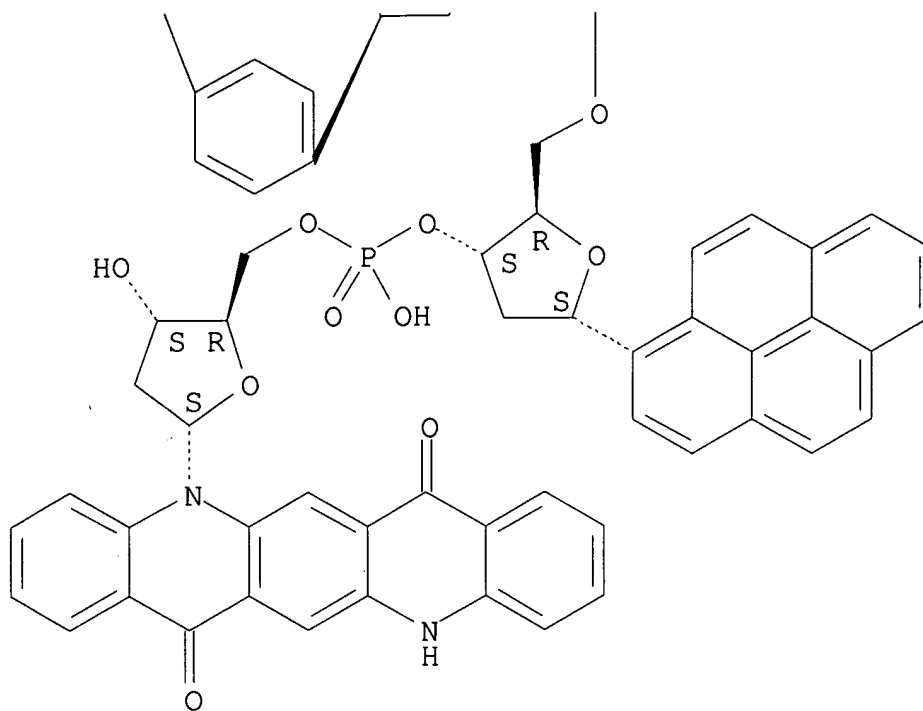
(9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

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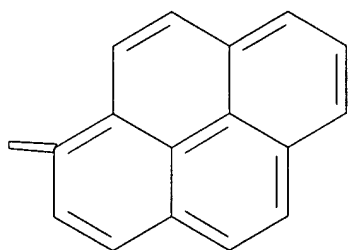
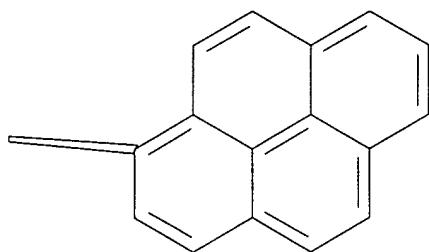
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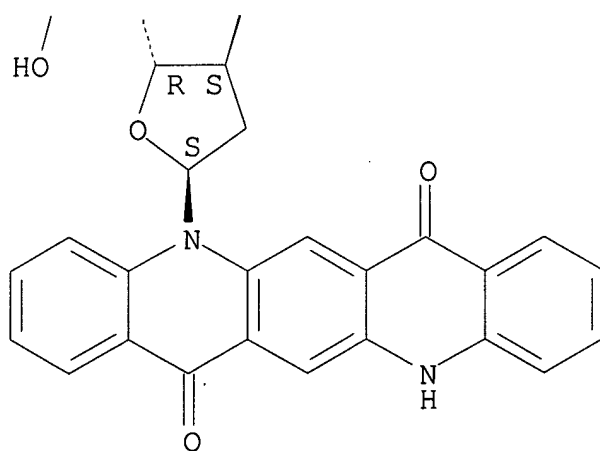
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Absolute stereochemistry.

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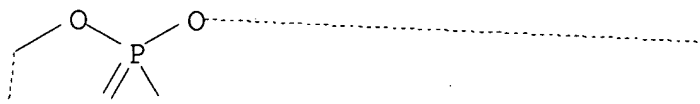
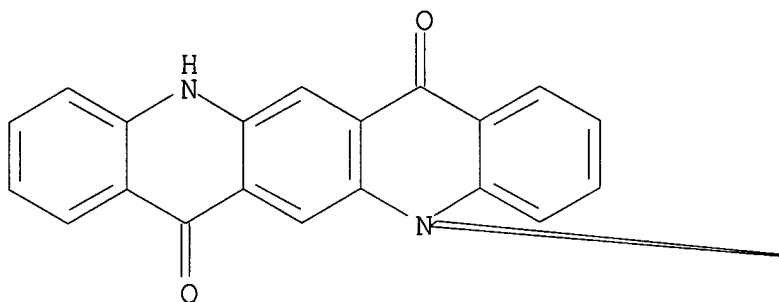


RN 667458-24-4 ZCA
 CN α -Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)- α -adenylyl-

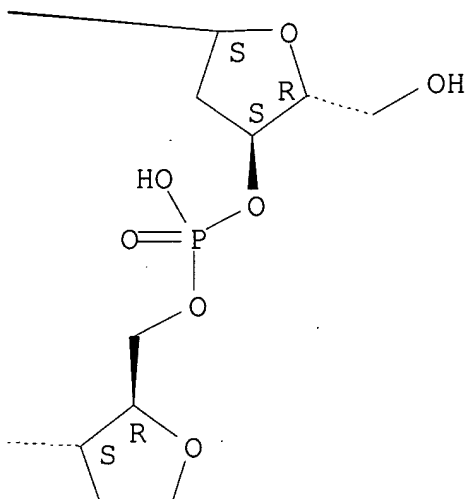
(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(3-perylenyloxy)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

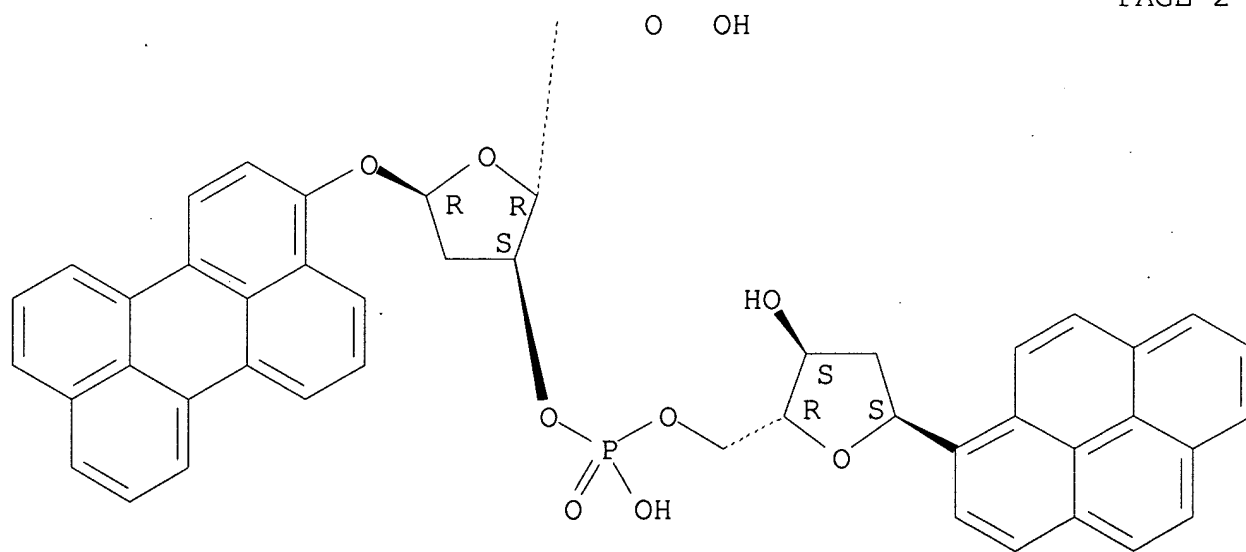
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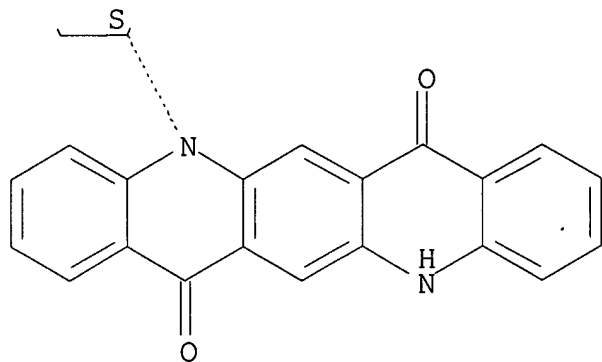
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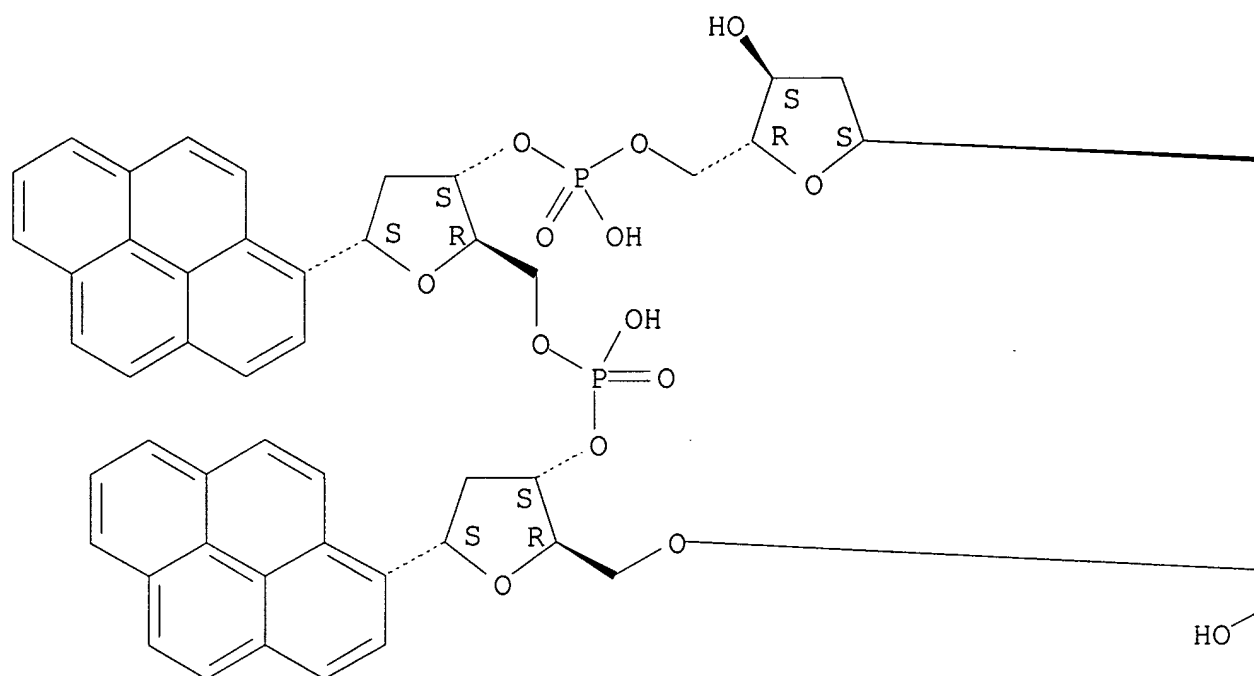
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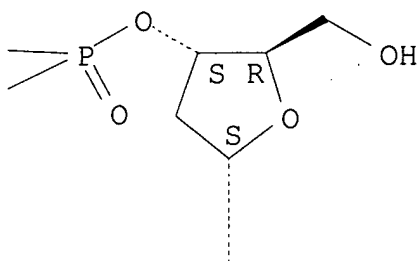
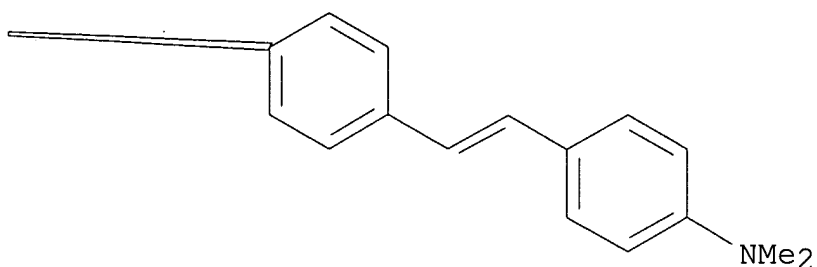
RN 667458-25-5 ZCA
 CN α -Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)- α -adenylyl-(3' \rightarrow 5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)- α -adenylyl-(3' \rightarrow 5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)- α -adenylyl-(3' \rightarrow 5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
 Double bond geometry unknown.

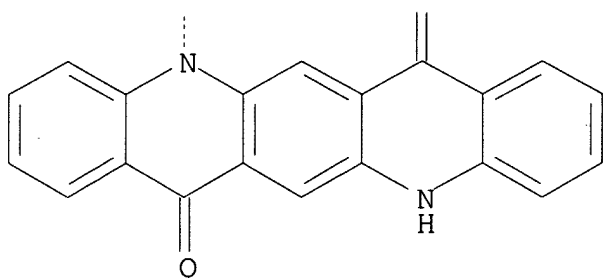
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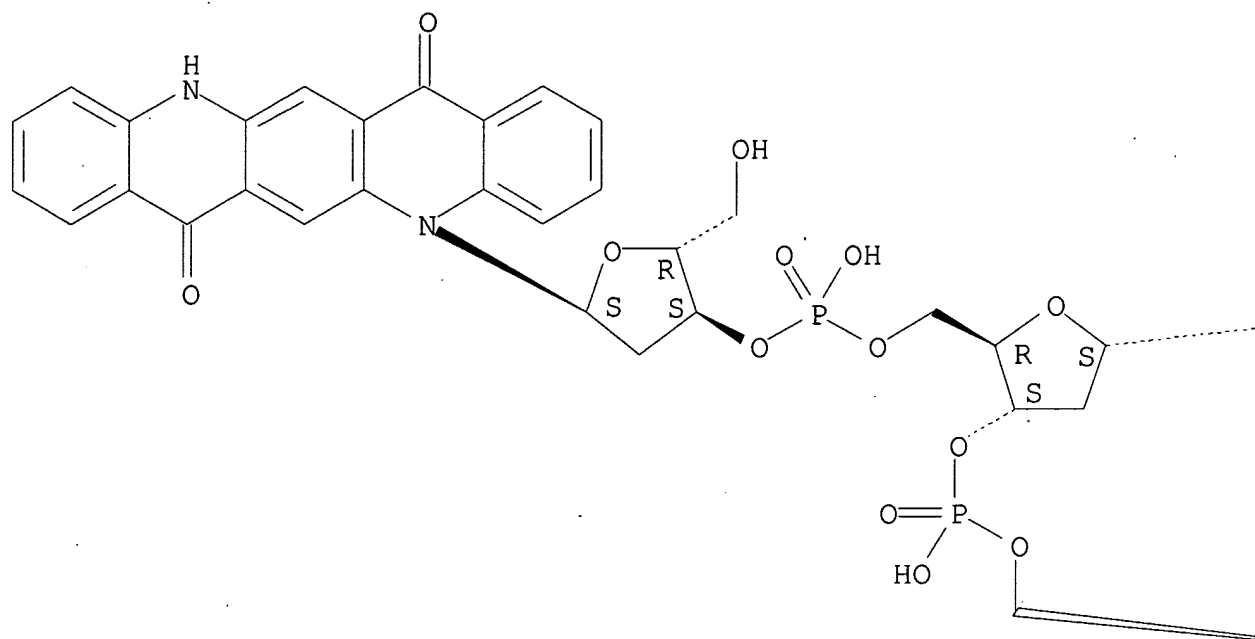


RN 667458-26-6 ZCA

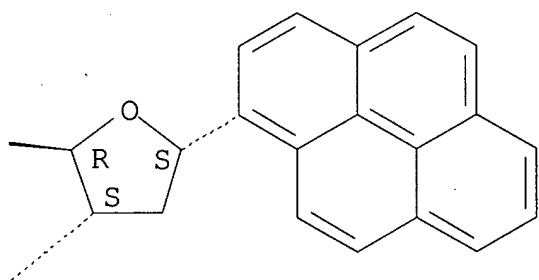
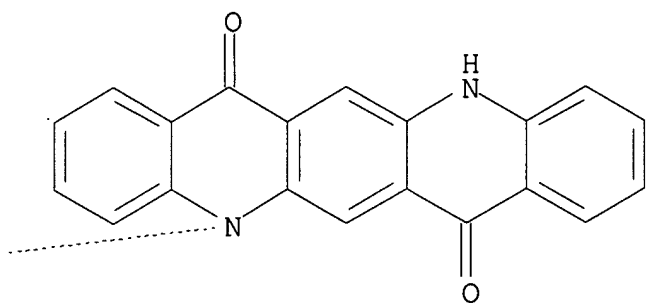
CN α -Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)- α -adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)- α -adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)- α -adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

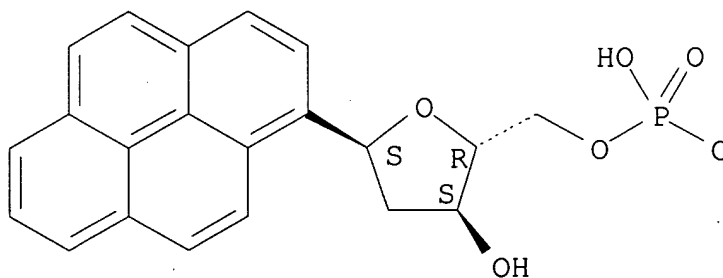
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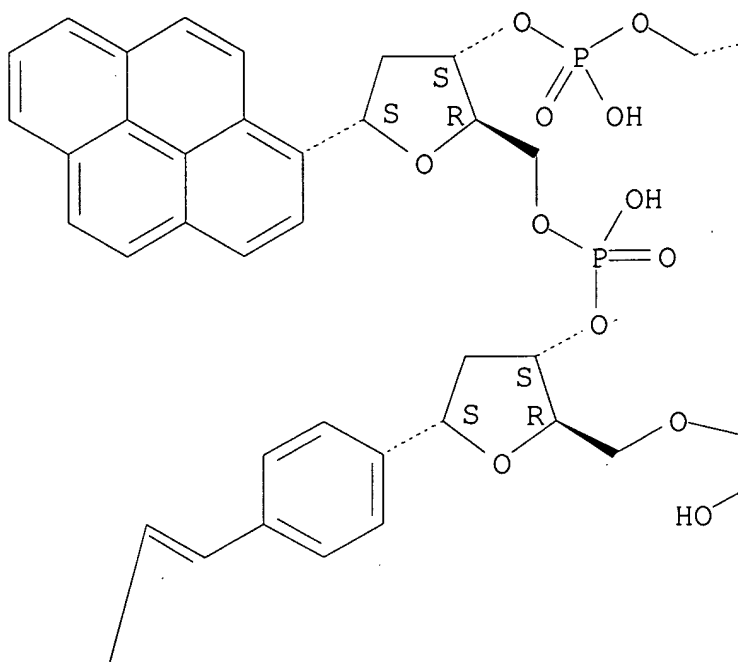
RN 667458-27-7 ZCA

CN α -Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)- α -adenyl-
 (3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]- α -adenyl-
 (3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-

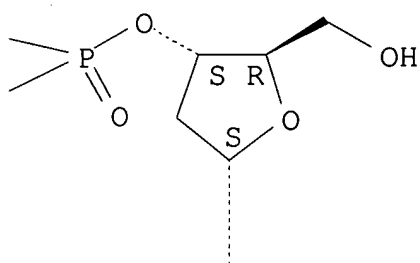
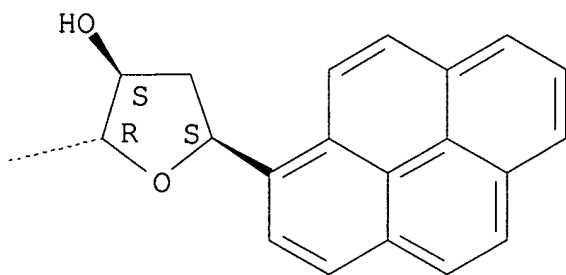
α -adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-
deoxy-1'-(1-pyrenyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

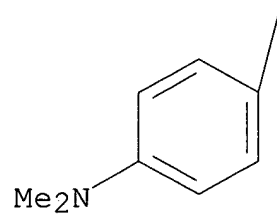
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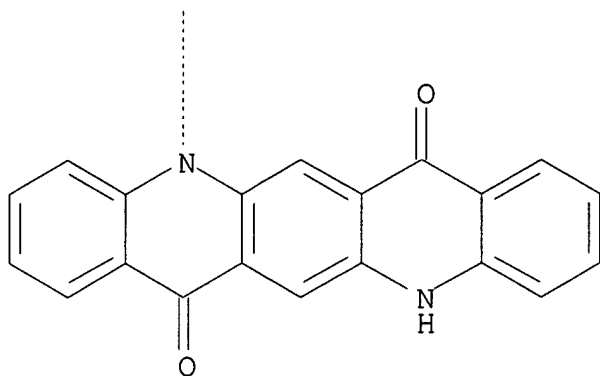
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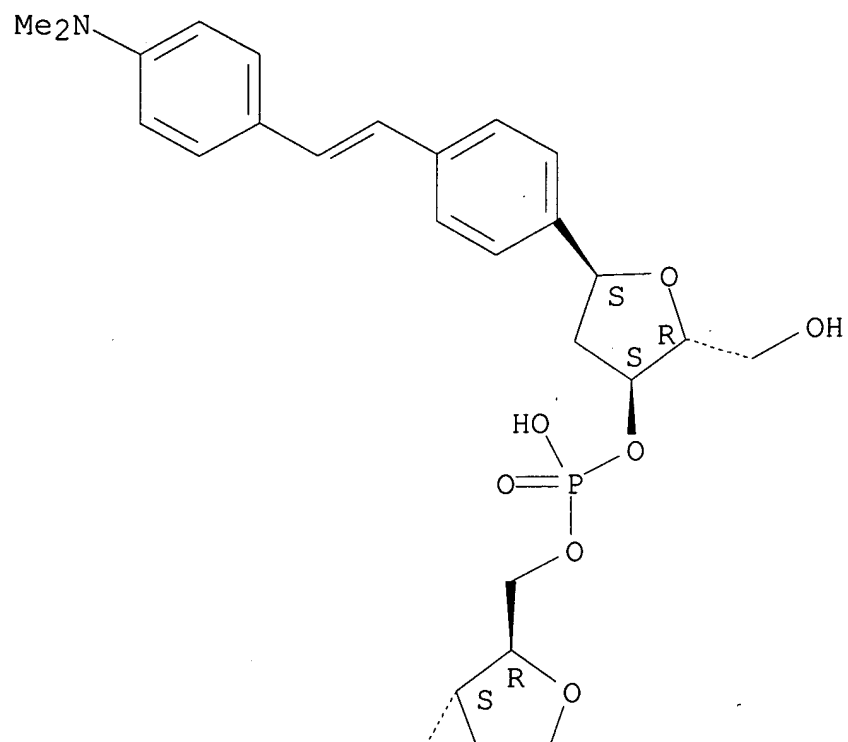
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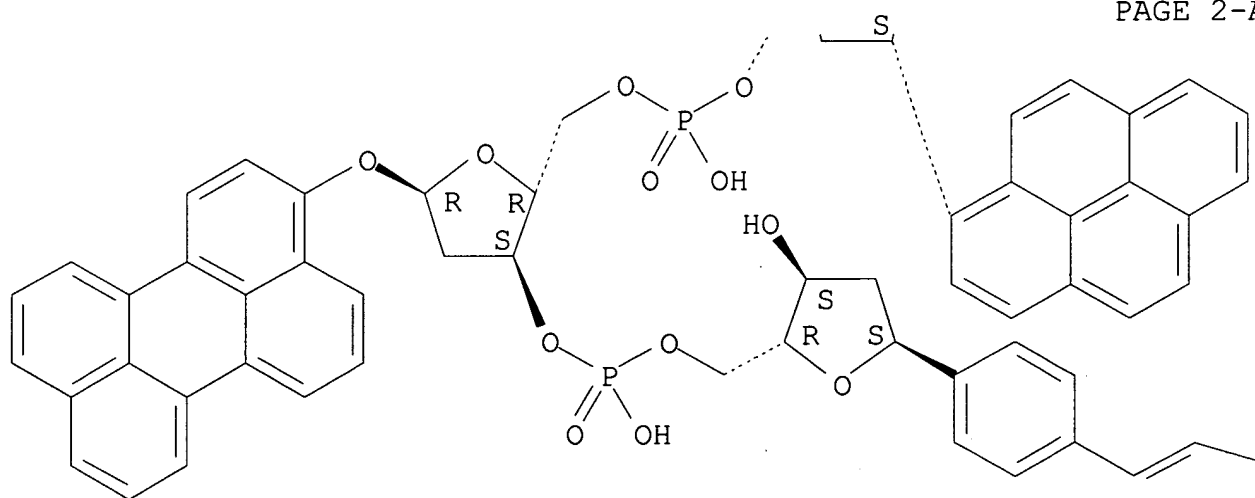
RN 667458-28-8 ZCA
CN α -Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]- α -adenylyl-(3' \rightarrow 5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)- α -adenylyl-(3' \rightarrow 5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(3-perylenyloxy)- α -adenylyl-(3' \rightarrow 5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

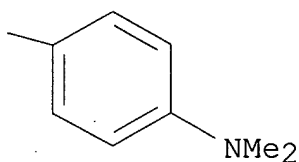
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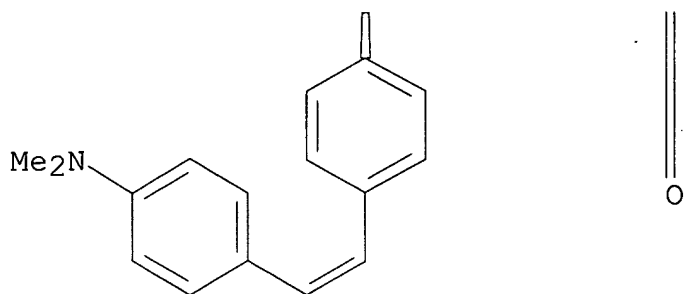
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RN 667458-29-9 ZCA
CN α -Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]- α -adenylyl-(3' \rightarrow 5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)- α -adenylyl-(3' \rightarrow 5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(3-perylenyloxy)- α -adenylyl-(3' \rightarrow 5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

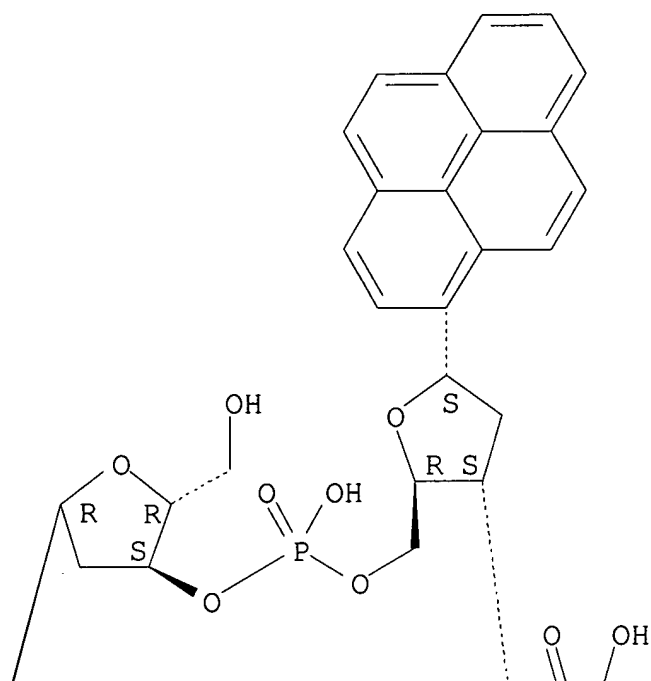
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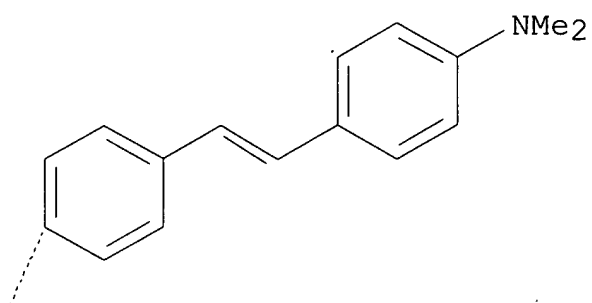
RN 667458-30-2 ZCA
CN α -Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(3-
peryleneoxy)- α -adenylyl-(3' \rightarrow 5')-1'-de(6-amino-9H-purin-
9-yl)-2'-deoxy-1'-(1-pyrenyl)- α -adenylyl-(3' \rightarrow 5')-1'-
de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-
(dimethylamino)phenyl]ethenyl]phenyl]- α -adenylyl-
(3' \rightarrow 5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-
(9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

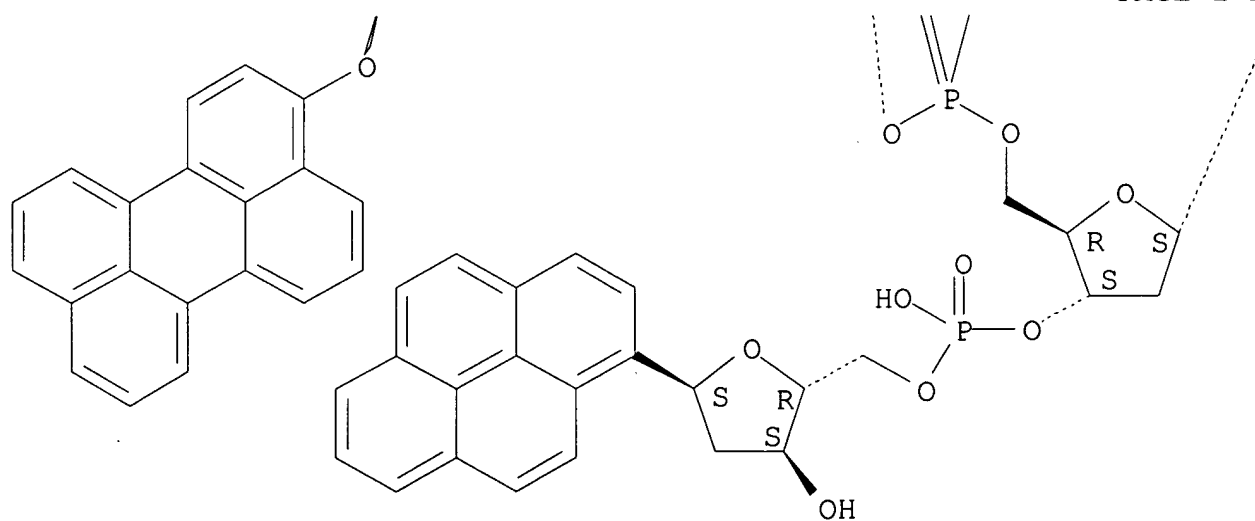
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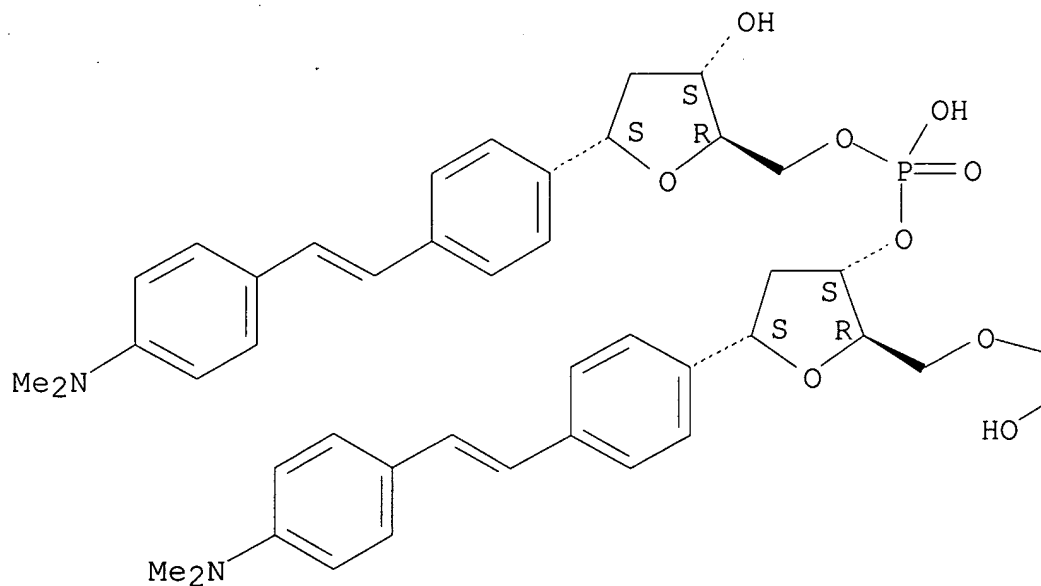


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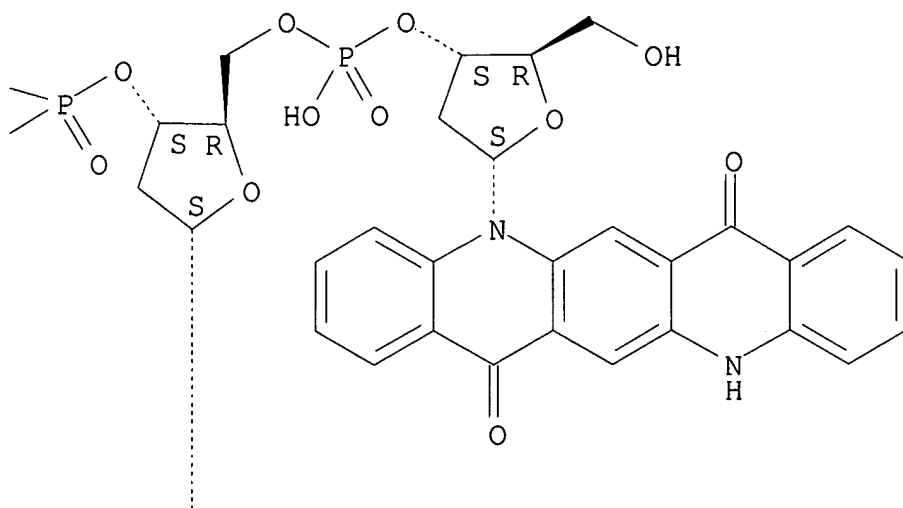
RN 667458-32-4 ZCA
CN α -Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)- α -adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)- α -adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]- α -adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

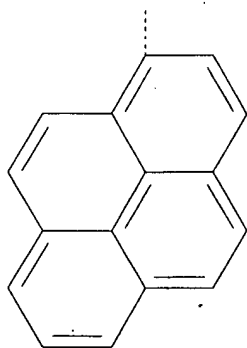
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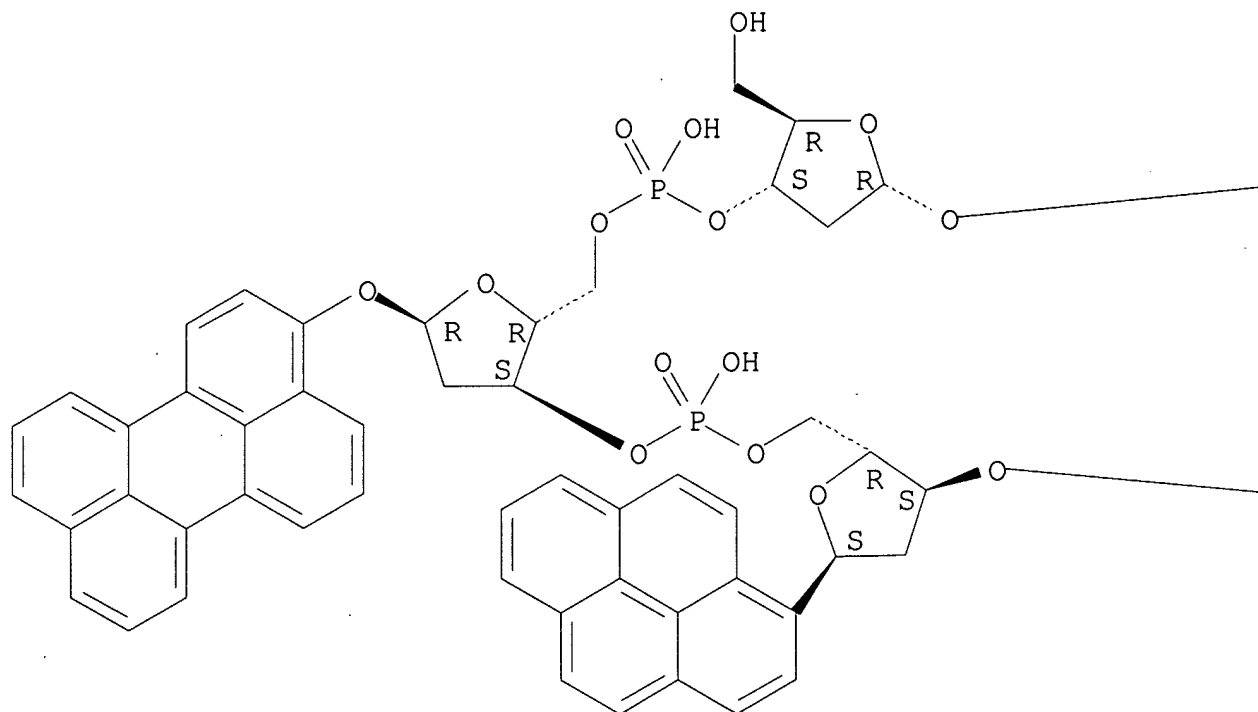


RN 667458-33-5 ZCA
 CN α -Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(3-
 perylenyloxy)- α -adenylyl-(3' \rightarrow 5')-1'-de(6-amino-9H-purin-
 9-yl)-2'-deoxy-1'-(3-perylenyloxy)- α -adenylyl-(3' \rightarrow 5')-
 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)- α -
 adenylyl-(3' \rightarrow 5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-

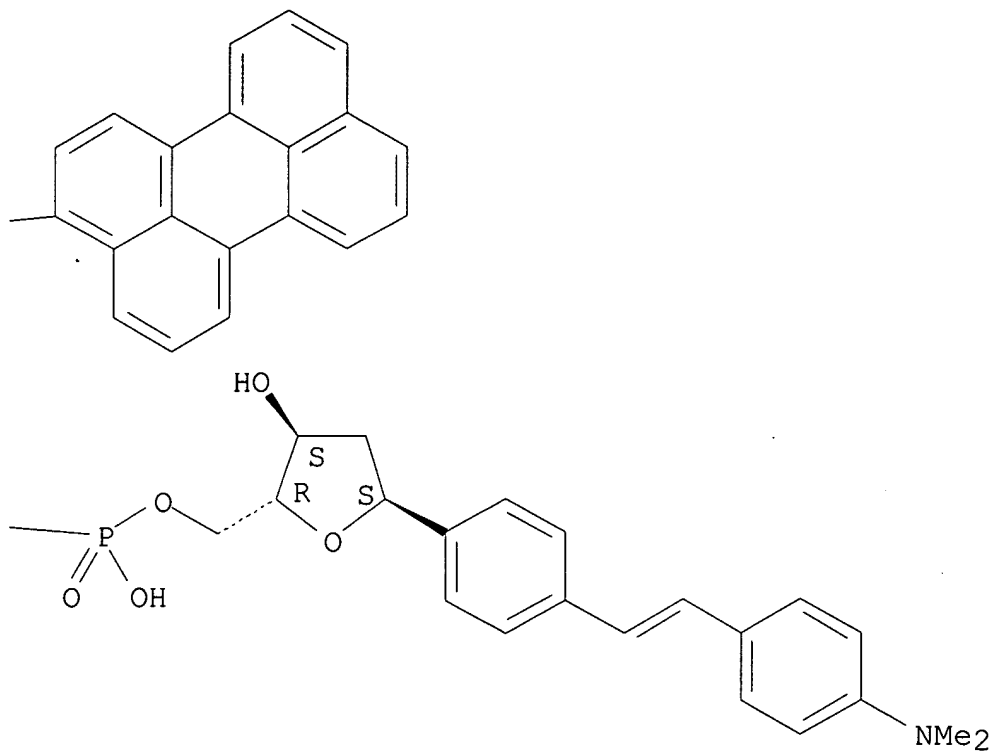
[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

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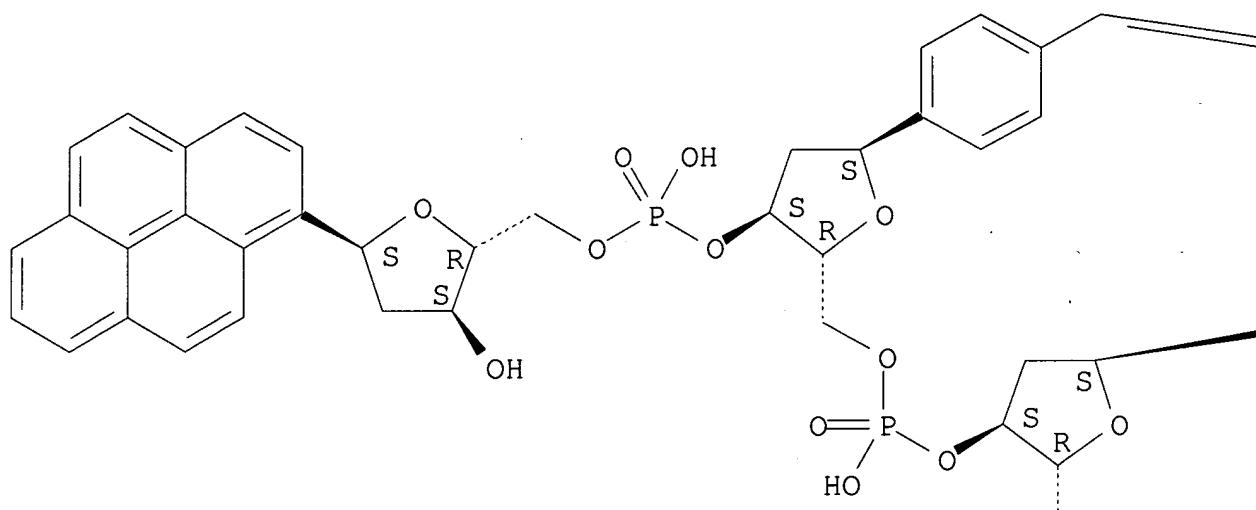
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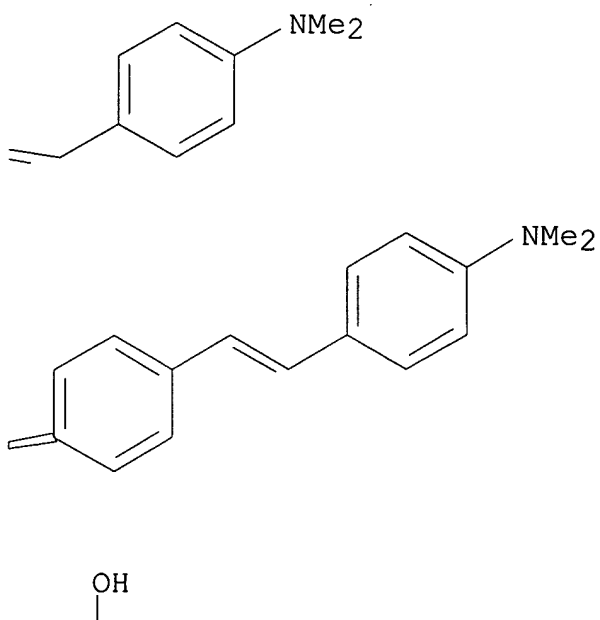
RN 667458-35-7 ZCA
 CN α -Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]- α -adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]- α -adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]- α -adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.
 Double bond geometry unknown.

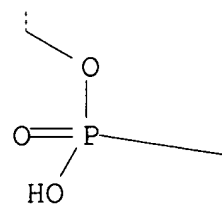
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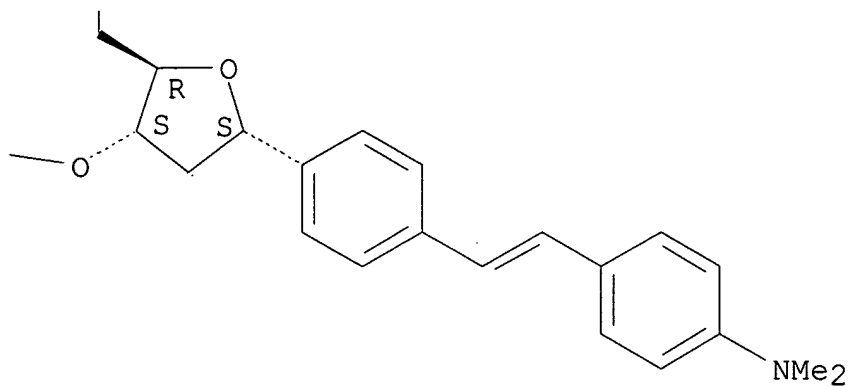
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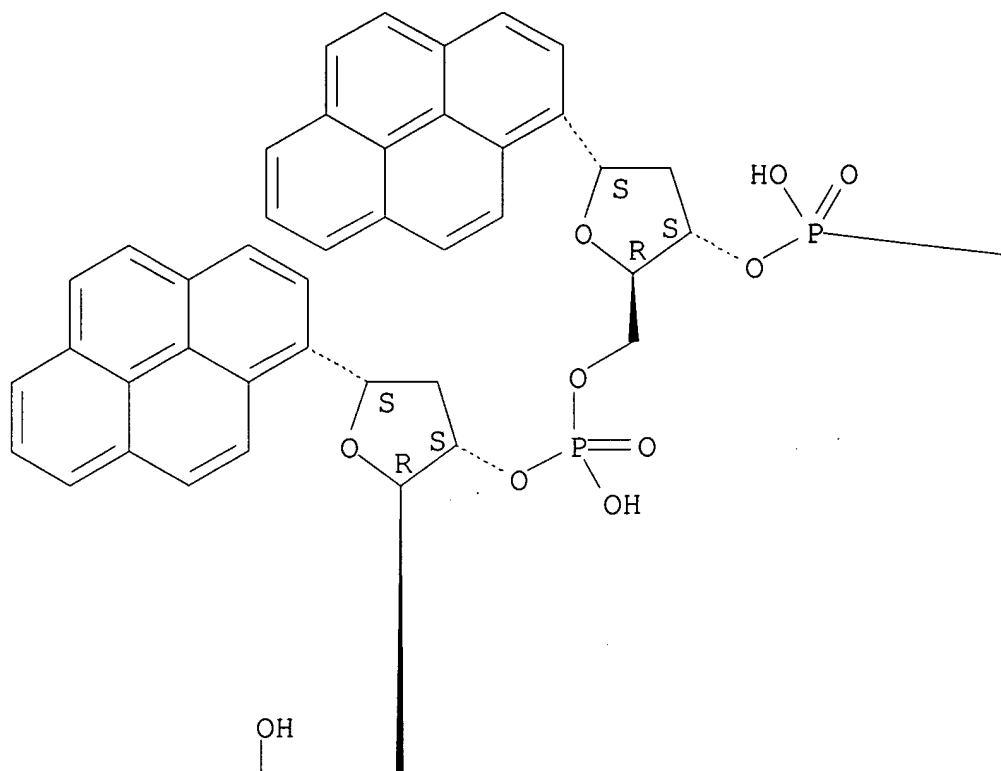


RN 667458-37-9 ZCA

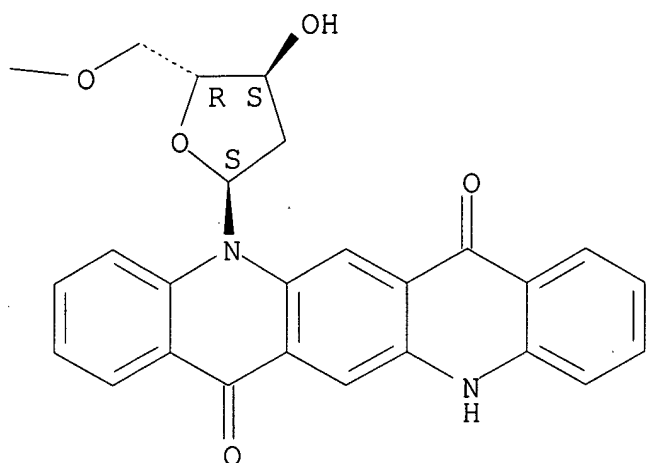
CN α -Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)- α -adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)- α -adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)- α -adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.

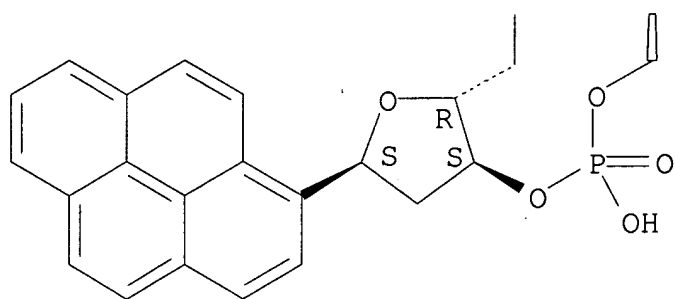
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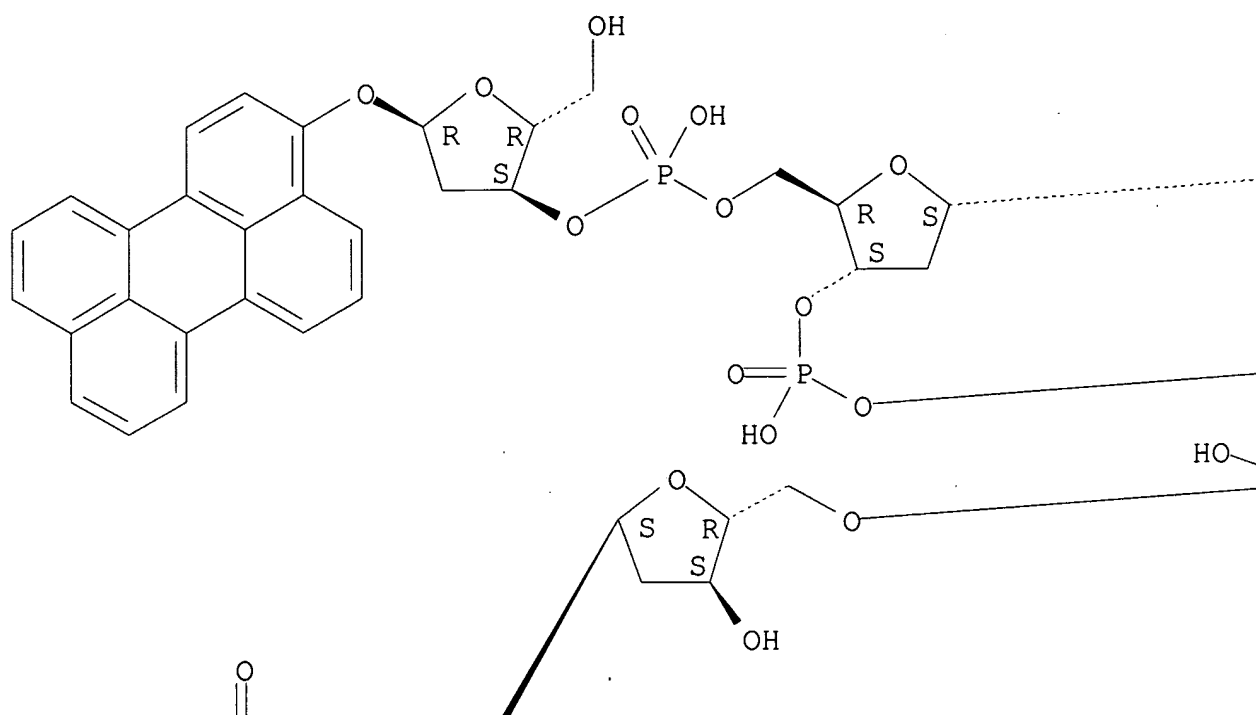
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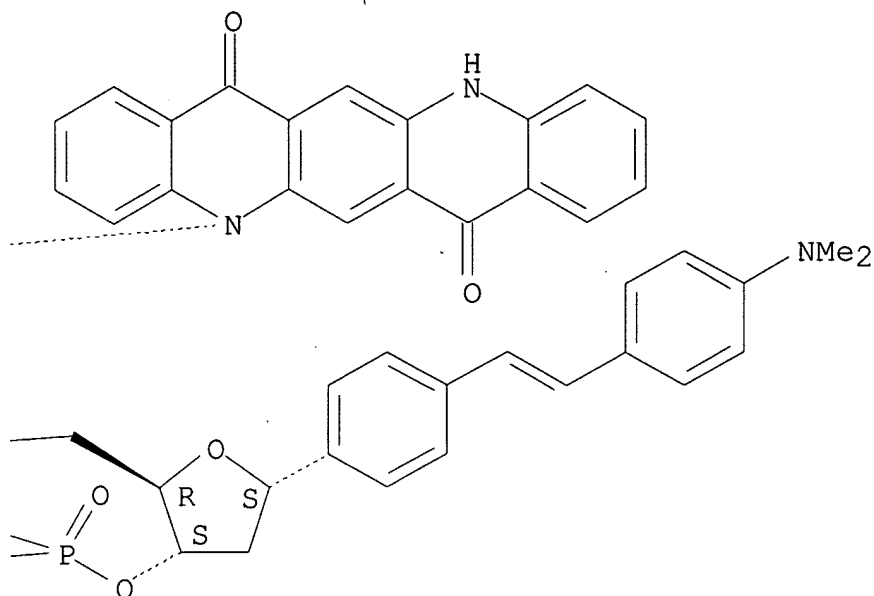
RN 667458-39-1 ZCA
 CN α -Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(3-
 perylenyloxy)- α -adenylyl-(3' \rightarrow 5')-1'-de(6-amino-9H-purin-
 9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-
 yl)- α -adenylyl-(3' \rightarrow 5')-1'-de(6-amino-9H-purin-9-yl)-2'-
 deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]- α -
 adenylyl-(3' \rightarrow 5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-
 (7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)- (9CI) (CA
 INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

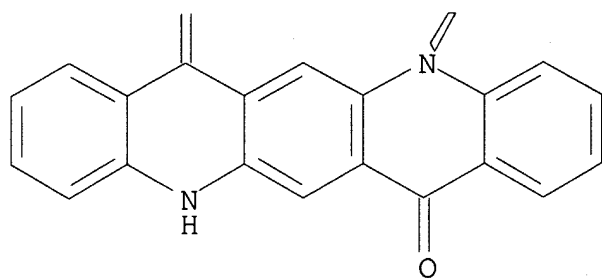
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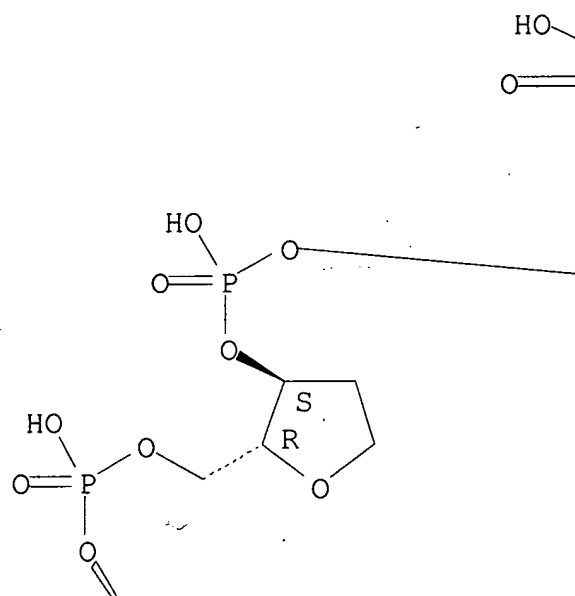
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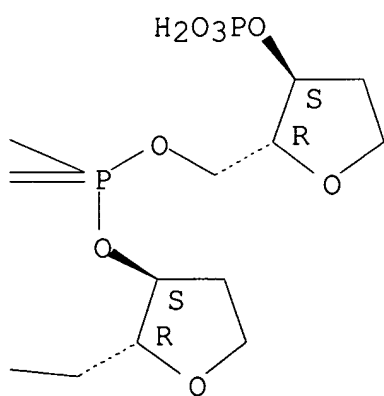
RN 667458-40-4 ZCA
 CN 3'-Adenylic acid, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

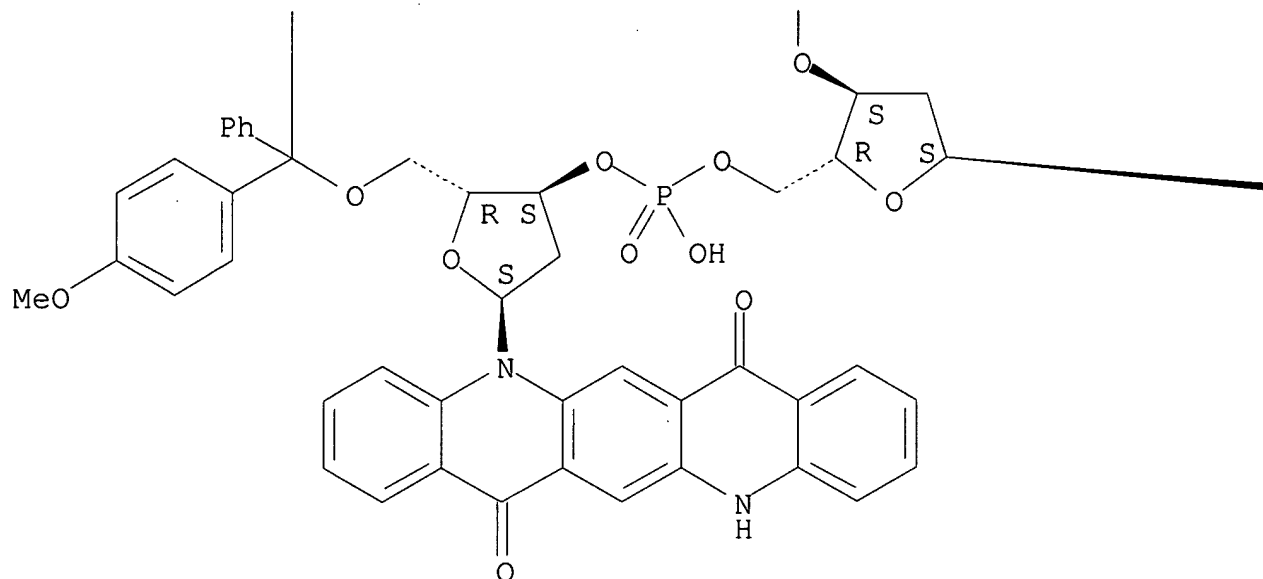
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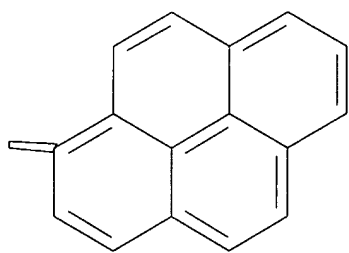
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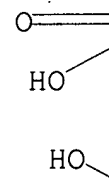
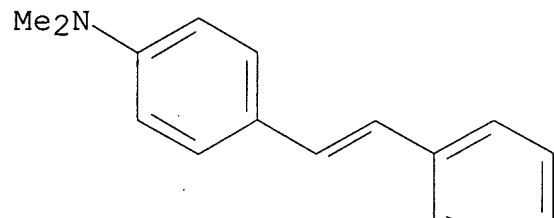
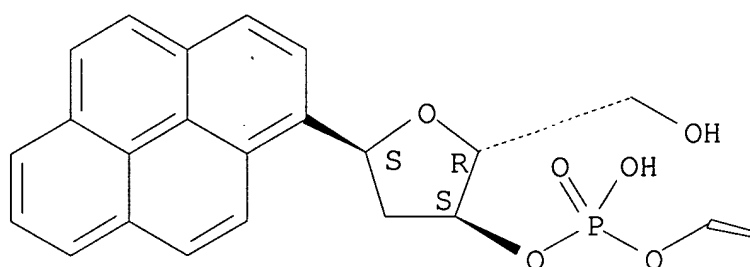


RN 667458-42-6 ZCA
 CN 3'-Adenylic acid, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy- (9CI) (CA

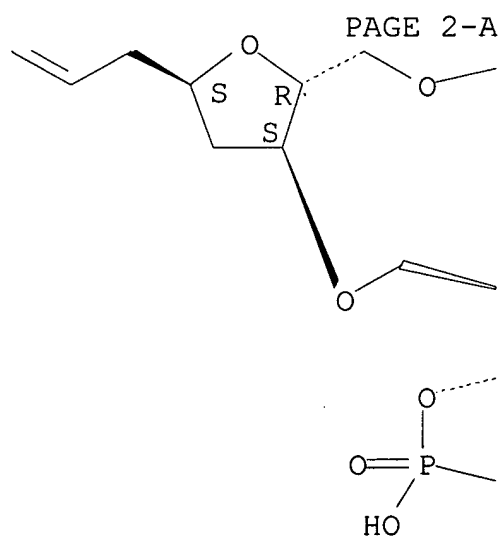
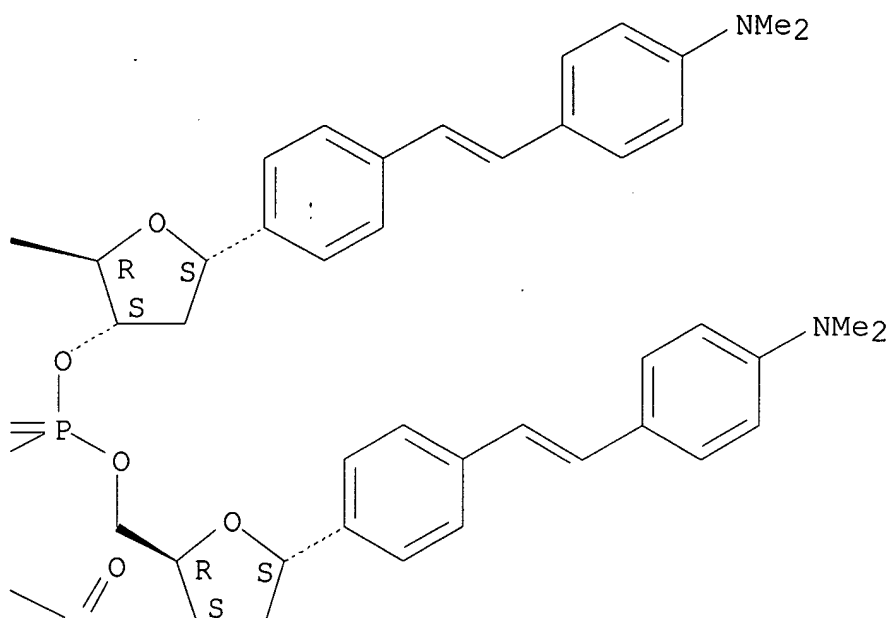
INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

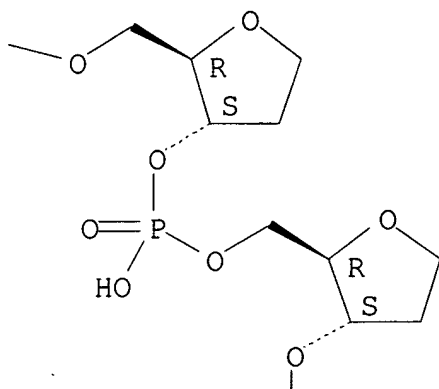
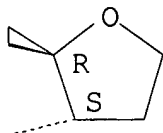
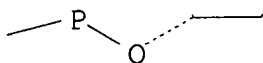
PAGE 1-A



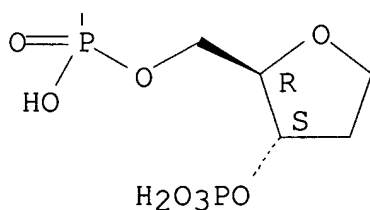
PAGE 1-B



PAGE 2-B



PAGE 3-B



IC ICM G01N
 CC 80-3 (Organic Analytical Chemistry)
 Section cross-reference(s): 9
 IT 50-69-1, Ribose 50-99-7, D-Glucose, analysis 58-86-6, Xylose,
 analysis 59-23-4, D-Galactose, analysis 65-42-9, Lyxose
 147-81-9, Arabinose 1724-14-7, 2-Deoxyribose 2152-76-3, Idose
 3396-73-4 3458-28-4, D-Mannose 5987-68-8, Altrose 6038-51-3,
 Allose 19163-87-2, Gulose 30077-17-9, Talose 181228-85-3
 473906-67-1 **473906-68-2** 473906-69-3 **473906-70-6**
 667457-70-7 667457-71-8 667457-72-9 667457-73-0 667457-74-1

667457-75-2 667457-76-3 667457-77-4 667457-78-5 667457-79-6
 667457-80-9 667457-81-0 667457-82-1 667457-83-2 667457-84-3
 667457-85-4 667457-86-5 667457-87-6 667457-88-7 667457-89-8
 667457-90-1 667457-91-2 667457-92-3 667457-93-4 667457-94-5
 667457-95-6 667457-96-7 667457-97-8 667457-98-9
667457-99-0 667458-00-6 667458-01-7
667458-02-8 667458-03-9 667458-04-0
 667458-05-1 **667458-15-3 667458-16-4**
667458-17-5 667458-18-6 667458-19-7
667458-20-0 667458-21-1 667458-22-2
667458-23-3 667458-24-4 667458-25-5
667458-26-6 667458-27-7 667458-28-8
667458-29-9 667458-30-2 667458-31-3
667458-32-4 667458-33-5 667458-34-6
667458-35-7 667458-36-8 667458-37-9
 667458-38-0 **667458-39-1 667458-40-4**
 667458-41-5 **667458-42-6 667458-43-7 667864-77-9**
 667864-78-0 667864-79-1 667864-80-4 667975-72-6 667975-73-7
 (fluorescent glycosides as labels for chem. and biol. mols.)

L37 ANSWER 2 OF 9 ZCA COPYRIGHT 2007 ACS on STN

139:108452 Monoamine as additive for organic electroluminescent device
 emitting high-intensity yellow to red light. Tanaka, Hiroaki;
 Kanno, Masaki; Yagi, Tamao; Toba, Yasumasa (Toyo Ink Mfg. Co., Ltd.,
 Japan). Jpn. Kokai Tokkyo Koho JP 2003201472 A2 20030718, 29 pp.
 (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-305258 20021021.
 PRIORITY: JP 2001-328710 20011026.

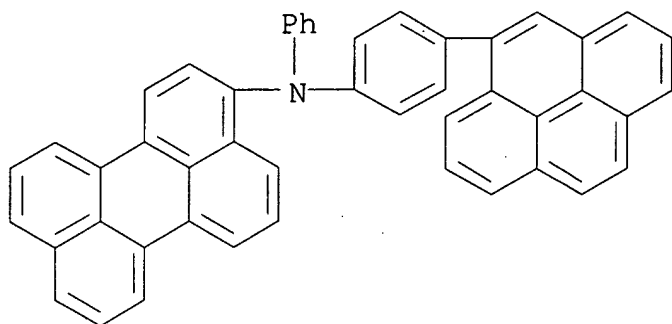
AB Claimed is the monoamine Ar1NR1R2 [Ar1 = (substituted) perylenyl;
 R1-2 = (substituted) monovalent aliph.- or arom. hydrocarbyl,
 (substituted) monovalent aliph.- or arom. heterocycle; at least one
 of R1-2 = -Ar2X1Ar3; Ar2 = (substituted) divalent arom.- hydrocarbyl or
 heterocycle; Ar3 = (substituted) monovalent arom.- hydrocarbyl or
 heterocycle; X1 = direct bond, O, S, :C(R3)R4, :Si(R5)R6; R3-6 = H,
 (substituted) monovalent aliph. or arom. hydrocarbyl; Ar1 and R1,
 Ar1 and R2, and/or R1 and R2 may form a ring]. An org.
 electroluminescent device comprises the amine in an org. layer,
 preferably in a light-emitting layer. The device shows long service
 life.

IT **558453-94-4 558454-09-4**

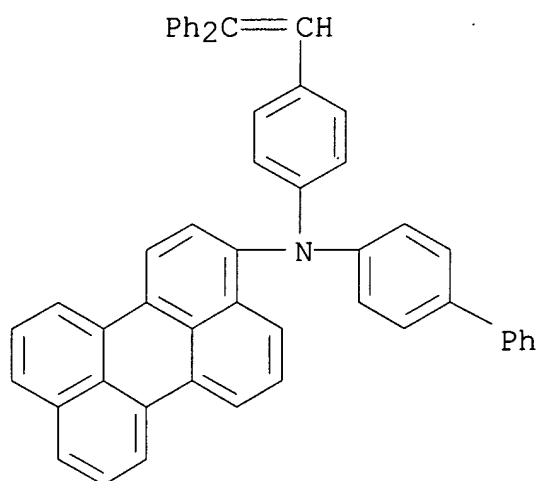
(org. electroluminescent device emitting high-intensity yellow to
 red light contg. perylenyl **arom. amine** in
 org. layer)

RN 558453-94-4 ZCA

CN 3-Perylenamine, N-phenyl-N-[4-(4-pyrenyl)phenyl]- (9CI) (CA INDEX
 NAME)



RN 558454-09-4 ZCA
 CN 3-Perylenamine, N-[1,1'-biphenyl]-4-yl-N-[4-(2,2-diphenylethenyl)phenyl]- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
 ICS C07C211-61; C07C217-80; C07C217-92; C07C323-37; C07D213-74;
 C07D215-38; C07D333-20; C07D333-36; C07D333-58; C07F007-10;
 H05B033-14
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related
 Properties)
 ST org electroluminescent device additive perylenyl **arom**
amine
 IT **Amines, uses**
 (arom. perylenyl; org. electroluminescent device
 emitting high-intensity yellow to red light contg. perylenyl
arom. amine in org. layer)
 IT Electroluminescent devices
 (org.; org. electroluminescent device emitting high-intensity
 yellow to red light contg. perylenyl **arom.**)

amine in org. layer)

IT 92-66-0, 4-Bromobiphenyl 20492-13-1, 3-Aminoperylene 106475-19-8
(in prepn. of perylenyl arom. amine as
additive for org. electroluminescent device emitting
high-intensity yellow to red light)

IT 536761-34-9P 558453-80-8P
(org. electroluminescent device emitting high-intensity yellow to
red light contg. perylenyl arom. amine in
org. layer)

IT 536761-35-0 536761-36-1 558453-78-4 558453-79-5 558453-81-9
558453-82-0 558453-83-1 558453-84-2 558453-85-3 558453-86-4
558453-87-5 558453-88-6 558453-89-7 558453-90-0 558453-91-1
558453-92-2 558453-93-3 **558453-94-4** 558453-95-5
558453-96-6 558453-97-7 558453-98-8 558453-99-9 558454-00-5
558454-01-6 558454-02-7 558454-03-8 558454-04-9 558454-05-0
558454-06-1 558454-07-2 558454-08-3 **558454-09-4**
558454-10-7 558454-11-8 558454-12-9 558454-13-0 558454-14-1
(org. electroluminescent device emitting high-intensity yellow to
red light contg. perylenyl arom. amine in
org. layer)

L37 ANSWER 3 OF 9 ZCA COPYRIGHT 2007 ACS on STN

139:28484 Composite for organic electroluminescent device comprising
perylene and diketopyrrolopyrrole derivatives. Onikubo, Toshikazu;
Oryu, Yoshitake; Amano, Masaomi; Maki, Shinichiro; Yanai, Hiroyuki;
Yagi, Tadao (Toyo Ink Mfg. Co., Ltd., Japan). PCT Int. Appl. WO
2003048268 A1 20030612, 75 pp. DESIGNATED STATES: W: CN, JP, KR,
US; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC,
NL, PT, SE, TR. (Japanese). CODEN: PIXXD2. APPLICATION: WO
2002-JP12592 20021202. PRIORITY: JP 2001-368036 20011203; JP
2002-18009 20020128.

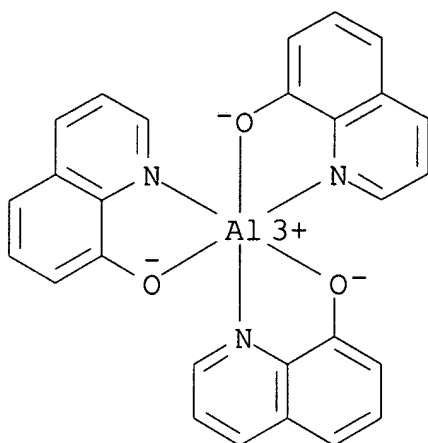
AB The invention refers to an org. electroluminescent device comprising
a perylene deriv. and a diketopyrrolopyrrole deriv. The device may
also contain a compd. having a fluorescence peak > 550 nm, and 5% of
another compd. relative to the first having a fluorescence spectrum
500 - 800 nm wherein the region > 600 nm is < 20% of the entire
spectrum.

IT **2085-33-8**, Aluminum tris(8-hydroxy quinolinato)
278174-15-5 519180-49-5

(composite for org. electroluminescent device comprising perylene
and diketopyrrolopyrrole derivs.)

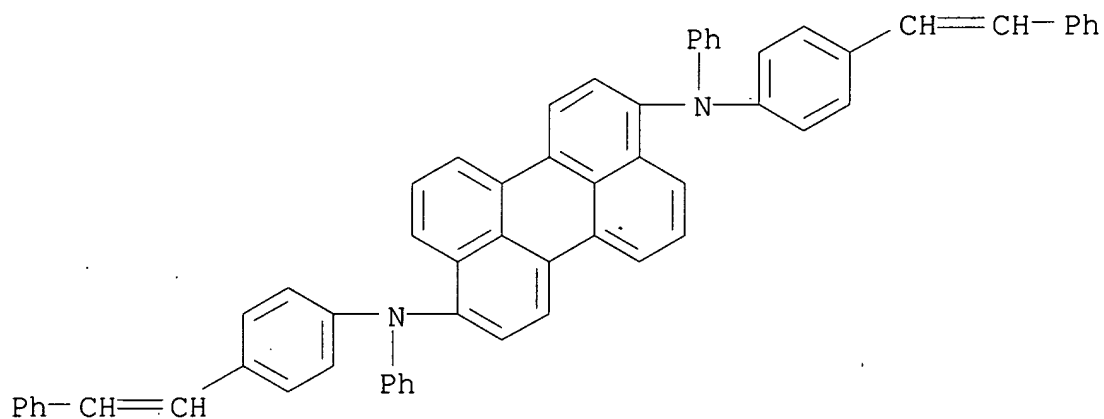
RN 2085-33-8 ZCA

CN Aluminum, tris(8-quinolinolato- κ N1, κ O8)- (9CI) (CA
INDEX NAME)



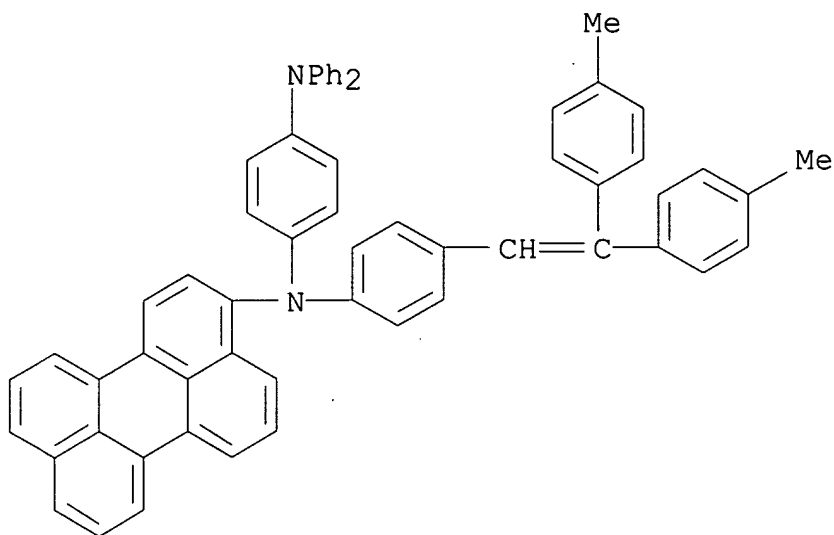
RN 278174-15-5 ZCA

CN 3,9-Perylenediamine, N,N'-diphenyl-N,N'-bis[4-(2-phenylethenyl)phenyl]- (9CI) (CA INDEX NAME)



RN 519180-49-5 ZCA

CN 1,4-Benzenediamine, N-[4-[2,2-bis(4-methylphenyl)ethenyl]phenyl]-N-3-perylenyl-N',N'-diphenyl- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
ICS H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

IT 517-51-1, Rubrene **2085-33-8**, Aluminum tris(8-hydroxy quinolinato) 2669-65-0 17904-86-8 123174-58-3 177580-90-4

200052-70-6	227009-36-1	227010-23-3	252756-13-1	
278174-15-5	331678-08-1	378792-65-5	384343-49-1	
384343-78-6	384343-79-7	384362-75-8	474067-56-6	488134-89-0
519180-16-6	519180-18-8	519180-22-4	519180-24-6	519180-26-8
519180-35-9	519180-37-1	519180-38-2	519180-42-8	519180-48-4
519180-49-5	519180-53-1	532952-64-0	532952-65-1	
532952-67-3	532952-68-4	536761-33-8	536761-34-9	536761-35-0
536761-36-1	536761-37-2	536761-38-3	536761-39-4	536761-40-7
536761-41-8	536761-42-9	536761-43-0	536761-44-1	536761-45-2
536761-46-3	536761-47-4	536761-48-5	536761-49-6	536761-50-9
536761-51-0	536761-53-2	536761-54-3	536761-55-4	536761-56-5
536761-57-6	536761-58-7	536761-59-8	536761-60-1	536761-61-2
536761-62-3	536761-63-4	536761-64-5	536761-65-6	536761-66-7
536761-67-8	536761-68-9	536761-69-0	536761-70-3	536761-71-4
536761-72-5	536761-73-6	536761-74-7	536761-75-8	536761-76-9
536761-77-0	536761-78-1	536761-79-2	536761-80-5	536761-81-6
536761-82-7	536761-83-8	536761-84-9	536761-85-0	536761-86-1
536761-87-2	536761-88-3	536761-89-4	536761-90-7	536761-93-0
536761-94-1	537032-97-6			

(composite for org. electroluminescent device comprising perylene and diketopyrrolopyrrole derivs.)

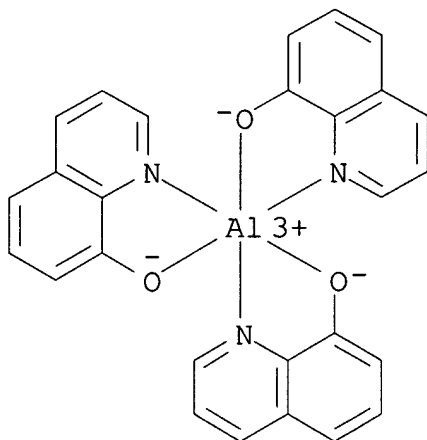
136:393041 Organic electroluminescent devices. Toguchi, Satoru; Ishikawa, Hitoshi; Tada, Hiroshi; Oda, Atsushi (Samsung Electronics Co., Ltd., Japan). U.S. Pat. Appl. Publ. US 2002058156 A1 20020516, 87 pp. (English). CODEN: USXXCO. APPLICATION: US 2001-985657 20011105. PRIORITY: JP 2000-339603 20001107; JP 2000-339604 20001107; JP 2000-339605 20001107.

AB Org. electroluminescent devices comprising an anode; a cathode; and ≥ 1 org. thin film layers including a light-emitting layer sandwiched between said anode and said cathode ADIW ≥ 1 org. thin film layer contains a compd. including an (un)substituted cyclohexylidenemethine group.

IT **2085-33-8, Alq3**
(org. electroluminescent devices employing cyclohexylidenemethine derivs.)

RN 2085-33-8 ZCA

CN Aluminum, tris(8-quinolinolato- $\kappa N1, \kappa O8$)- (9CI) (CA INDEX NAME)

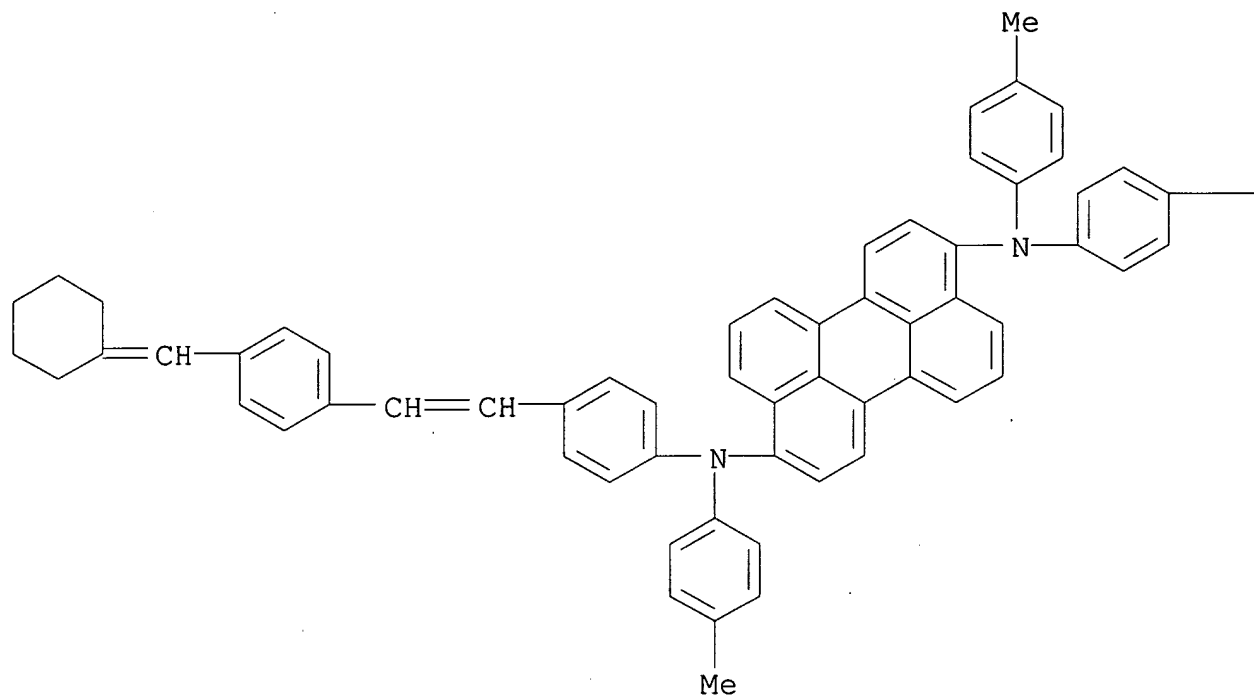


IT **426218-27-1P 426218-28-2P**
(org. electroluminescent devices employing cyclohexylidenemethine derivs.)

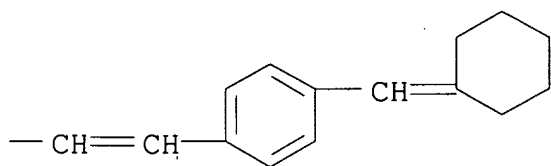
RN 426218-27-1 ZCA

CN 3,9-Perylenediamine, N,N'-bis[4-[2-[4-(cyclohexylidenemethyl)phenyl]ethenyl]phenyl]-N,N'-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

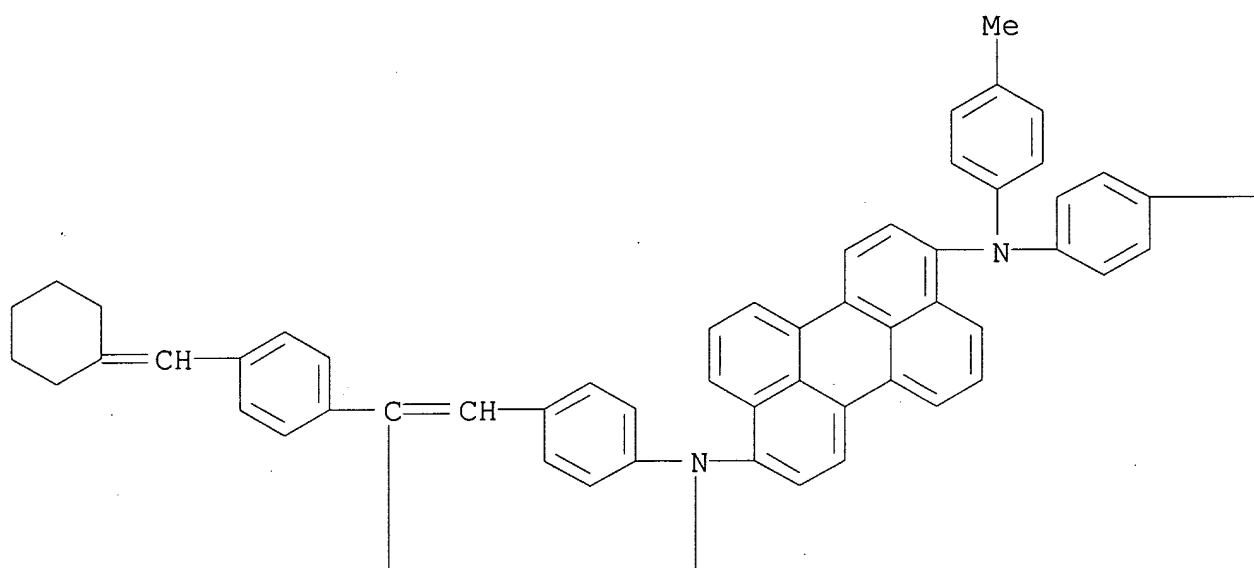


PAGE 1-B

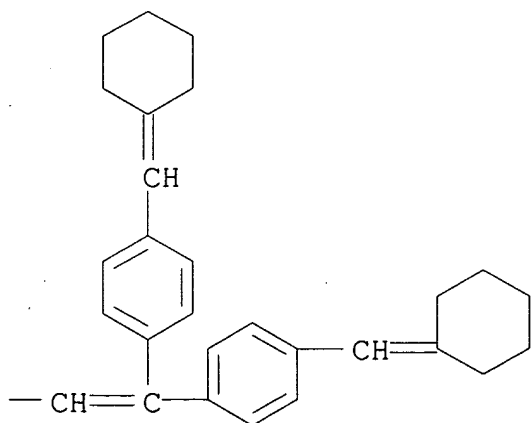


RN 426218-28-2 ZCA
 CN 3,9-Perylenediamine, N,N'-bis[4-[2,2-bis[4-(cyclohexylidenemethyl)phenyl]ethenyl]phenyl]-N,N'-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

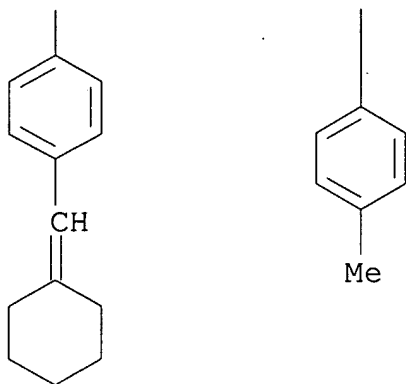
PAGE 1-A



PAGE 1-B



PAGE 2-A



- IC H05B033-12
 INCL 428690000
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 25, 76
 IT **2085-33-8**, Alq3 15082-28-7, 2-(4-Biphenyl)-5-(4-t-butylphenyl)-1,3,4-oxadiazole 37271-44-6 50926-11-9, ITO 61843-06-9 65181-78-4, N,N'-Diphenyl-N,N'-bis(3-methylphenyl)-1,1'-biphenyl-4,4'-diamine 123847-85-8 150405-69-9 163226-12-8 181367-28-2 194214-31-8 194794-43-9 227939-49-3 426218-62-4 426218-63-5
 (org. electroluminescent devices employing cyclohexylidenemethine derivs.)
 IT 426218-12-4P 426218-13-5P 426218-14-6P 426218-15-7P
 426218-16-8P 426218-17-9P 426218-18-0P 426218-19-1P
 426218-20-4P 426218-21-5P 426218-22-6P 426218-23-7P
 426218-24-8P 426218-25-9P 426218-26-0P **426218-27-1P**
426218-28-2P 426218-30-6P 426218-31-7P 426218-32-8P
 426218-33-9P 426218-34-0P 426218-35-1P 426218-36-2P
 426218-37-3P 426218-38-4P 426218-40-8P 426218-41-9P
 426218-42-0P 426218-44-2P 426218-46-4P 426218-47-5P
 426218-49-7P 426218-50-0P 426218-52-2P 426218-53-3P
 426218-54-4P 426218-55-5P 426218-56-6P 426218-59-9P
 426218-60-2P 426218-61-3P 426252-99-5P 426253-00-1P
 426253-01-2P
 (org. electroluminescent devices employing cyclohexylidenemethine derivs.)
 L37 ANSWER 5 OF 9 ZCA COPYRIGHT 2007 ACS on STN
 135:114277 Organic electroluminescent device. Ishikawa, Hitoshi; Higashiguchi, Itaru; Tada, Hiroshi; Morioka, Yukiko; Oda, Atsushi (NEC Corp., Japan). Jpn. Kokai Tokkyo Koho JP 2001196180 A2 20010719, 18 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP

2000-3436 20000112.

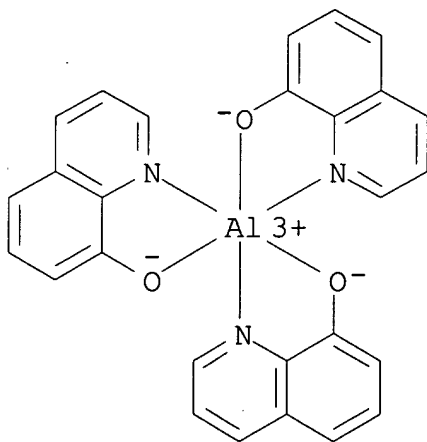
AB The invention relates to an org. electroluminescent device comprising an electroluminescent layer contg. an arom. hydrocarbon represented by Ar1-Ar2 [Ar1 = naphthyl, anthracenyl, perylenyl, benzoperylenyl and dibenzoperylenyl groups; and Ar2 = perylenyl, benzoperylenyl, and dibenzoperylenyl groups].

IT **2085-33-8**, al 8q **350509-86-3 350509-87-4 350509-89-6**

(org. electroluminescent device)

RN 2085-33-8 ZCA

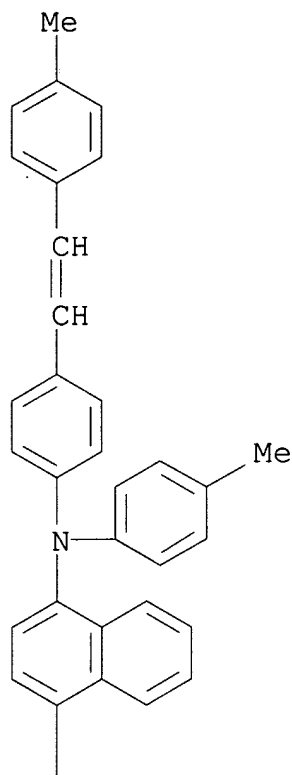
CN Aluminum, tris(8-quinolinolato- κ N1, κ O8)- (9CI) (CA INDEX NAME)



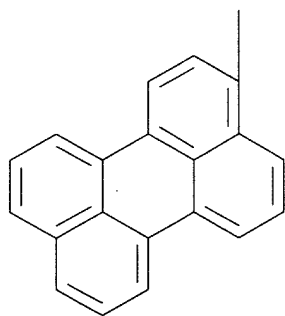
RN 350509-86-3 ZCA

CN 1-Naphthalenamine, N-(4-methylphenyl)-N-[4-[2-(4-methylphenyl)ethenyl]phenyl]-4-(3-perylenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

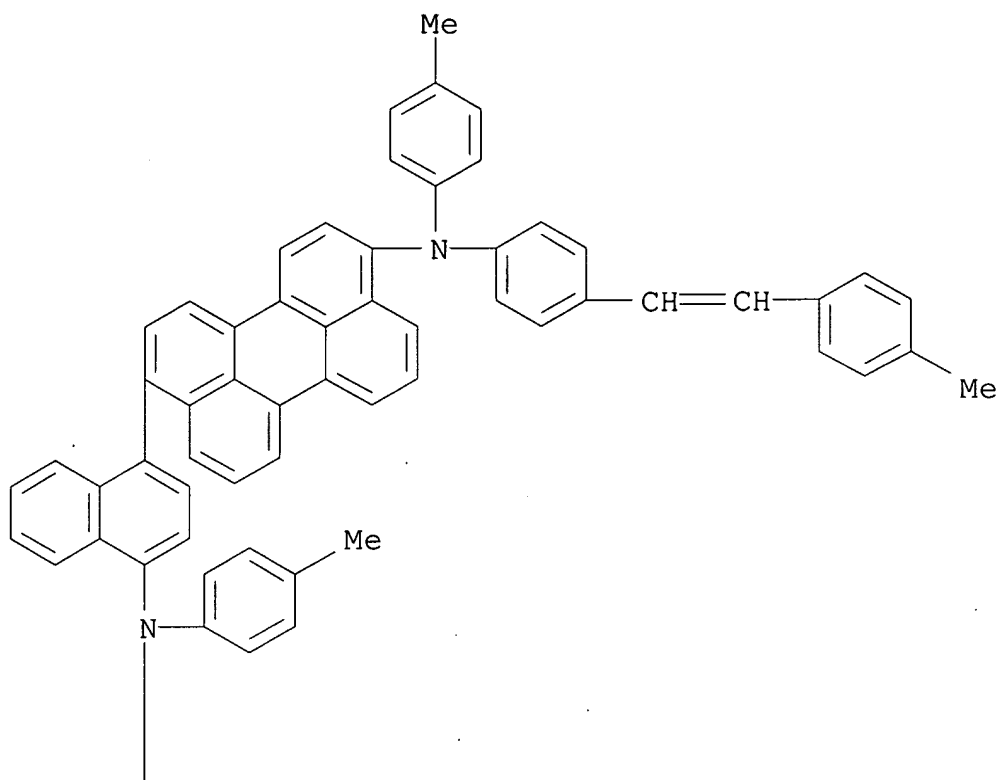


PAGE 2-A

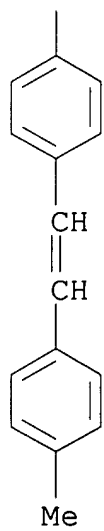


RN 350509-87-4 ZCA
 CN 3-Perylenamine, N-(4-methylphenyl)-N-[4-[2-(4-methylphenyl)ethenyl]phenyl]-10-[4-[(4-methylphenyl)[4-[2-(4-methylphenyl)ethenyl]phenyl]amino]-1-naphthalenyl]- (9CI) (CA INDEX NAME)

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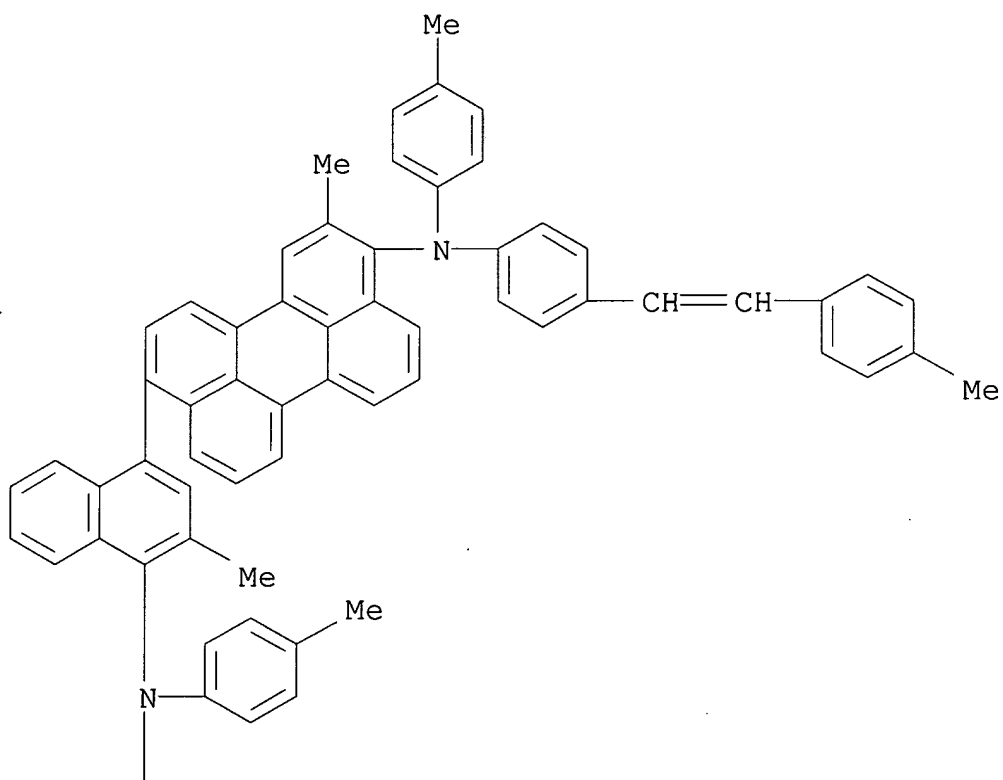


PAGE 2-A

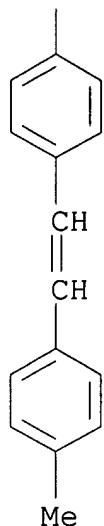


RN 350509-89-6 ZCA
CN 3-Perylenamine, 2-methyl-10-[3-methyl-4-[(4-methylphenyl)[4-[2-(4-methylphenyl)ethenyl]phenyl]amino]-1-naphthalenyl]-N-(4-methylphenyl)-N-[4-[2-(4-methylphenyl)ethenyl]phenyl]- (9CI) (CA INDEX NAME)

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- IC ICM H05B033-14
ICS C09K011-06; H05B033-22; C23C014-06
- CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
- IT 198-55-0D, Perylene, derivs. **2085-33-8**, al 8q
11057-45-7D, Benzoperylene, derivs. 15082-28-7 37271-44-6
50926-11-9, ITO 65181-78-4, N,N'-Diphenyl-N,N'-bis(3-methylphenyl)-[1,1'-biphenyl]-4,4'-diamine 123847-85-8, N,N'-Diphenyl-N,N'-bis(1-naphthyl)-1,1'-biphenyl-4,4'-diamine 138372-67-5 181367-28-2
194214-31-8 194794-43-9 227939-49-3 **350509-86-3**
350509-87-4 350509-89-6 350509-90-9
350509-91-0 350509-93-2
(org. electroluminescent device)
- L37 ANSWER 6 OF 9 ZCA COPYRIGHT 2007 ACS on STN
- 134:123381 Organic electroluminescent device and method for fabricating same. Morioka, Yukiko; Oda, Atsushi; Ishikawa, Hitoshi; Toguchi, Satoru; Tada, Hiroshi (Nec Corp., Japan). Eur. Pat. Appl. EP 1069628 A2 20010117, 38 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 2000-115313 20000714. PRIORITY: JP 1999-200279 19990714; JP 1999-204317 19990719.
- AB Methods for fabricating org. electroluminescent devices are described which entail irradiating an anode with UV light (100-200 nm); forming ≥ 1 org. layer adjacent to the anode; and forming a cathode on the org. layer. Org. electroluminescent devices in which the anode was irradiated with UV light are also described.

Preferably, the org. materials in contact with the anodes comprise arylamine derivs.

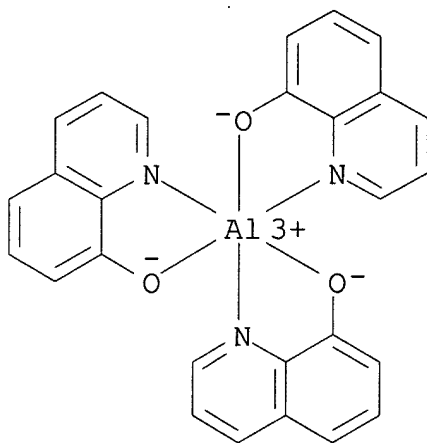
IT **2085-33-8**, Tris(8-hydroxyquinolinato)aluminum

282535-70-0

(org. electroluminescent devices with UV-irradiated anodes and their fabrication)

RN 2085-33-8 ZCA

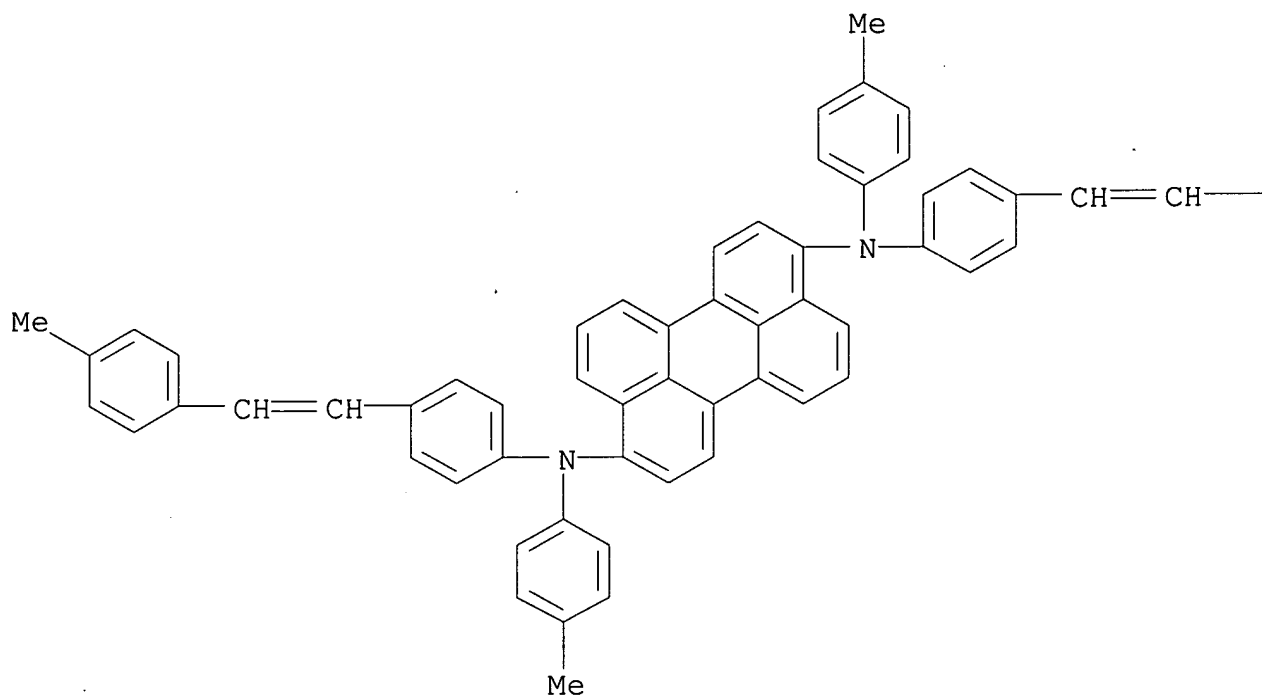
CN Aluminum, tris(8-quinolinolato- κ N1, κ O8)- (9CI) (CA INDEX NAME)



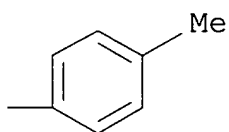
RN 282535-70-0 ZCA

CN 3,9-Perylenediamine, N,N'-bis(4-methylphenyl)-N,N'-bis[4-[2-(4-methylphenyl)ethenyl]phenyl]- (9CI) (CA INDEX NAME)

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IC      ICM H01L051-20
CC      73-11 (Optical, Electron, and Mass Spectroscopy and Other Related
        Properties)
        Section cross-reference(s): 76
IT      2085-33-8, Tris(8-hydroxyquinolinato)aluminum      37271-44-6
        50926-11-9, Indium tin oxide      123847-85-8, N,N'-Diphenyl-N,N'-bis(1-
        naphthyl)-1,1'-biphenyl-4,4'-diamine      146162-49-4      146162-54-1
        181367-28-2      188049-37-8      221453-37-8      227939-49-3      252644-43-2
        265120-80-7      265120-97-6 282535-70-0      320717-38-2
        (org. electroluminescent devices with UV-irradiated anodes and

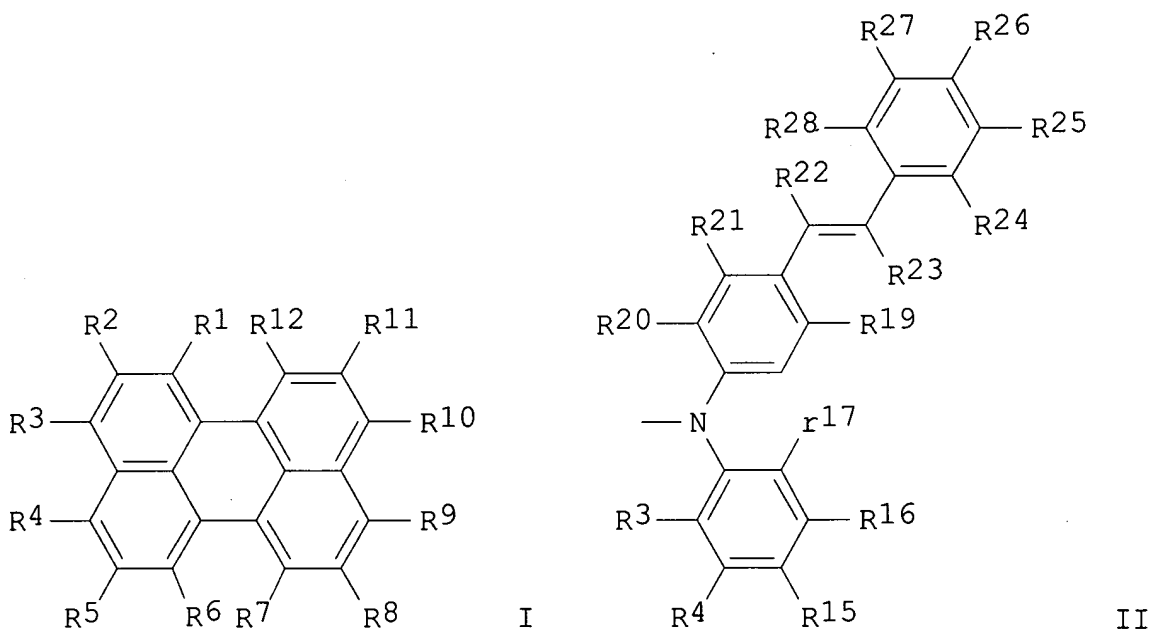
```

their fabrication)

L37 ANSWER 7 OF 9 ZCA COPYRIGHT 2007 ACS on STN

133:81379 Organic electroluminescent devices. Touguchi, Itaru;
Ishikawa, Hitoshi; Morioka, Yukiko; Oda, Atsushi (Nec Corp., Japan).
Jpn. Kokai Tokkyo Koho JP 2000182771 A2 20000630, 18 pp.
(Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-357822 19981216.

GI



AB The devices comprise a phosphor, an electron transport and/or a hole transport layer comprising a perylene deriv. I, II (R1-12 = H, halo, hydroxyl, (substituted) amino, nitro, cyano, (substituted) alkyl, (substituted) alkenyl, (substituted) cycloalkyl, (substituted) alkoxy, (substituted) arom. hydrocarbon, (substituted) arom. heterocyclic, (substituted) aralkyl, (substituted) aryloxy; R13-23 = H, halo, hydroxyl, (substituted) amino excluding diarylamino, nitro, cyano, (substituted) alkyl, (substituted) alkenyl, (substituted) alkoxy, (substituted) arom. hydrocarbon, (substituted) arom. heterocyclic, (substituted) aralkyl, (substituted) aryloxy, (substituted) alkoxycarbonyl, (substituted) styryl, carboxyl; R24-28 = H, halo, hydroxyl, NAr1Ar2; Ar1,2 = C6-20 (substituted) aryl; nitro, cyano, (substituted) alkyl, (substituted) alkenyl, (substituted) cycloalkyl, (substituted) alkoxy, (substituted) arom. hydrocarbon, (substituted) arom. heterocyclic, (substituted)

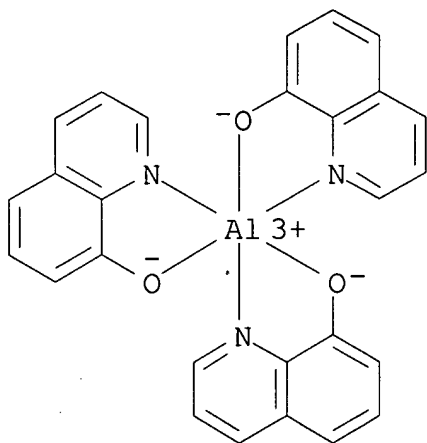
aralkyl, (substituted) aryloxy, (substituted) alkoxycarbonyl, carboxyl).

IT 2085-33-8, Tris(8-quinolinolato)aluminum 265120-90-9
278174-15-5 278174-16-6 278174-17-7
278174-18-8

(org. electroluminescent devices contg. perylene deriv.)

RN 2085-33-8 ZCA

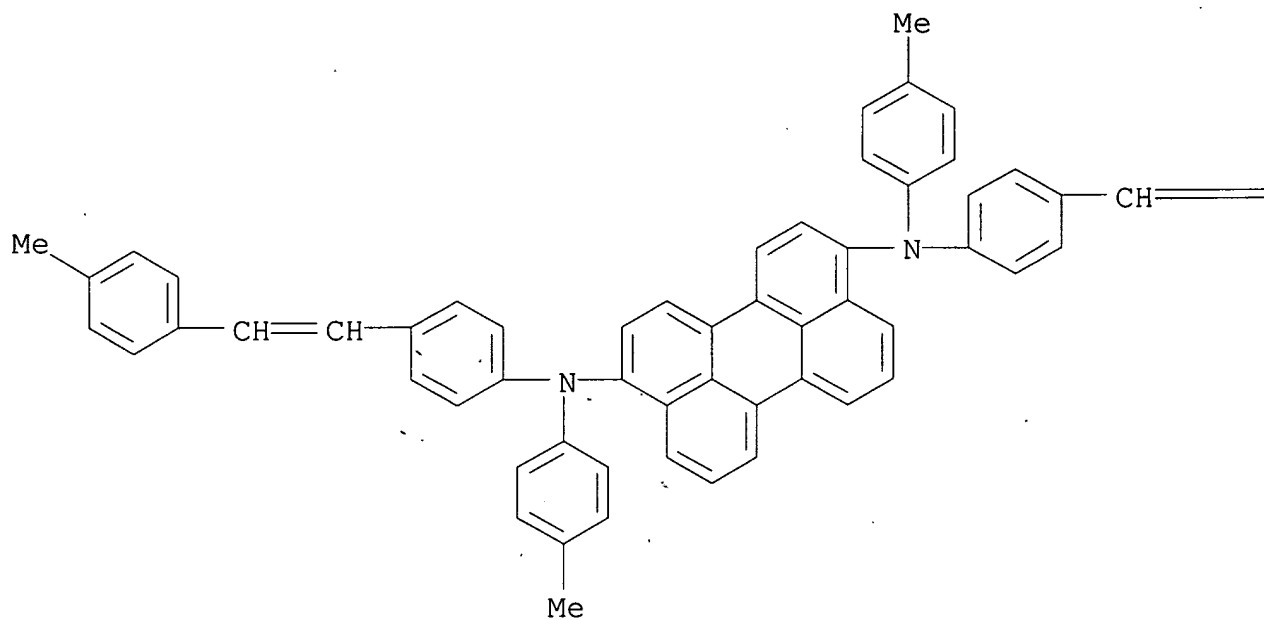
CN Aluminum, tris(8-quinolinolato- κ N1, κ O8)- (9CI) (CA
INDEX NAME)



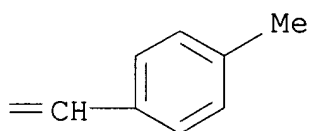
RN 265120-90-9 ZCA

CN 3,10-Perylenediamine, N,N'-bis(4-methylphenyl)-N,N'-bis[4-[2-(4-methylphenyl)ethenyl]phenyl]- (9CI) (CA INDEX NAME)

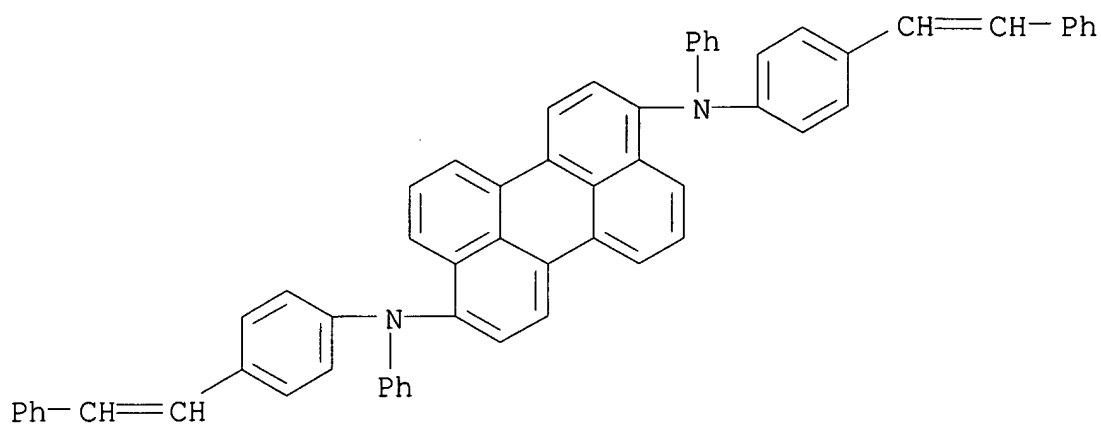
PAGE 1-A



PAGE 1-B

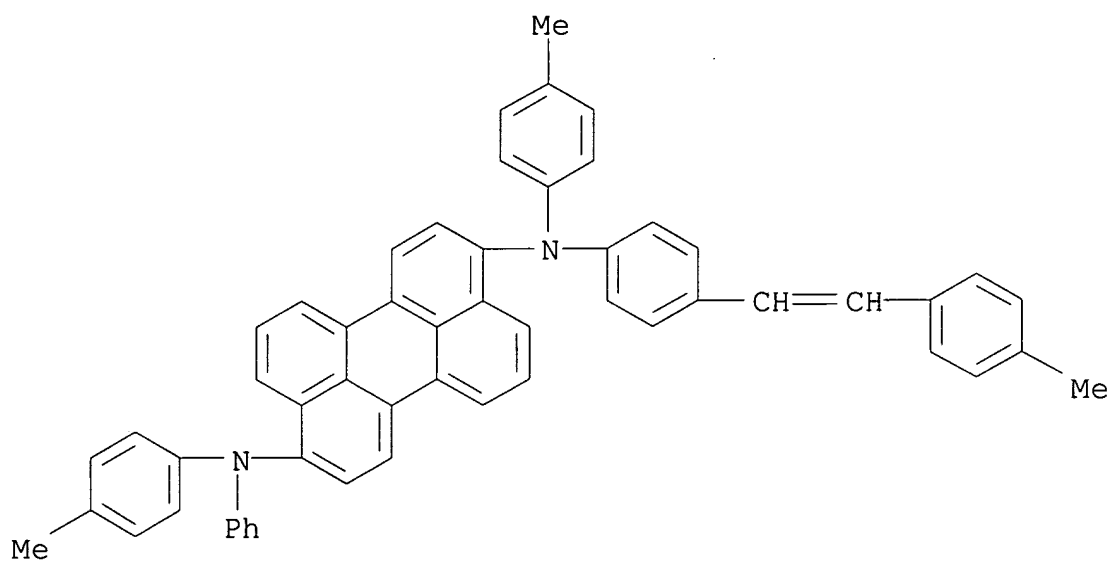


RN 278174-15-5 ZCA
 CN 3,9-Perylenediamine, N,N'-diphenyl-N,N'-bis[4-(2-phenylethenyl)phenyl]- (9CI) (CA INDEX NAME)



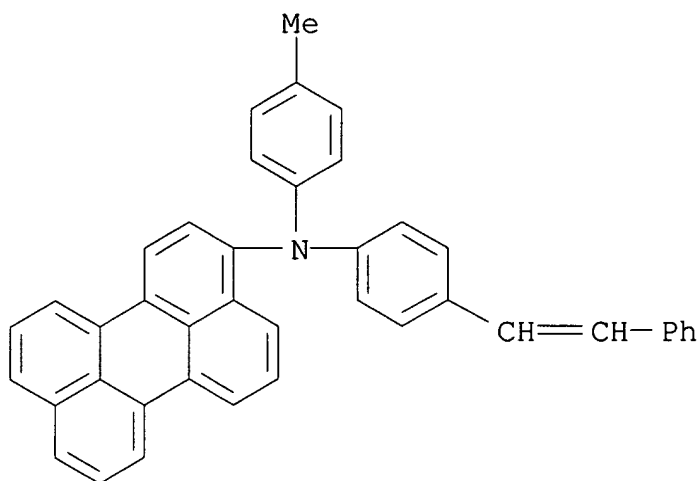
RN 278174-16-6 ZCA

CN 3,9-Perylenediamine, N,N'-bis(4-methylphenyl)-N-[4-[2-(4-methylphenyl)ethenyl]phenyl]-N'-phenyl- (9CI) (CA INDEX NAME)

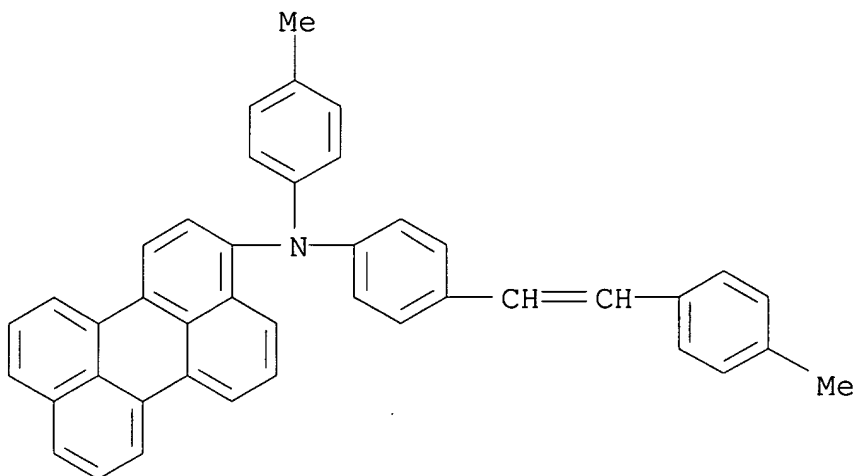


RN 278174-17-7 ZCA

CN 3-Perylenamine, N-(4-methylphenyl)-N-[4-(2-phenylethenyl)phenyl]- (9CI) (CA INDEX NAME)



RN 278174-18-8 ZCA
 CN 3-Perylenamine, N-(4-methylphenyl)-N-[4-[2-(4-methylphenyl)ethenyl]phenyl]- (9CI) (CA INDEX NAME)

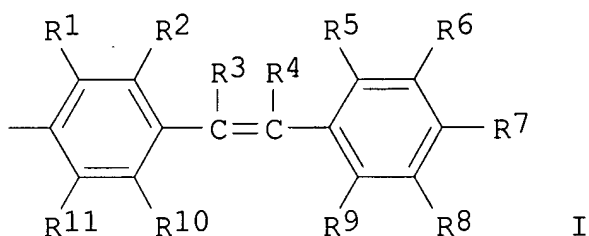


IC ICM H05B033-14
 ICS C09K011-06; H05B033-22
 CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 IT **2085-33-8**, Tris(8-quinolinolato)aluminum 15082-28-7
 65181-78-4, N,N'-Diphenyl-N,N'-bis(3-methylphenyl)-(1,1'-biphenyl)-4,4'-diamine 123847-85-8 138372-67-5 **265120-90-9**
278174-15-5 278174-16-6 278174-17-7
278174-18-8
 (org. electroluminescent devices contg. perylene deriv.)

L37 ANSWER 8 OF 9 ZCA COPYRIGHT 2007 ACS on STN

132:315621 Organic electroluminescent device using hole-injectable, light-emitting material. Oda, Atsushi; Ishikawa, Hitoshi; Toguchi, Satoru; Morioka, Yukiko (NEC Corporation, Japan; Samsung SDI Co., Ltd.). Eur. Pat. Appl. EP 996177 A2 20000426, 28 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 1999-121184 19991022. PRIORITY: JP 1998-302547 19981023.

GI



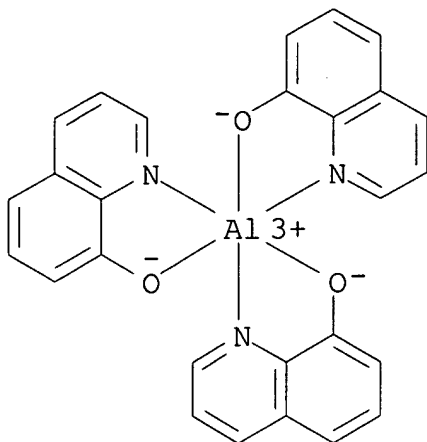
AB Org. electroluminescent device comprising at least an anode, an org. light-emitting zone which consists of ≥ 1 org. thin-film layers, and a cathode are described in which the org. light-emitting zone is adjacent to the anode, and a layer contacting the anode in the light-emitting zone contains, either singly or as a mixt., a compd. represented by the general formula $\text{Ar}_2\text{-N(Ar}_3\text{)-Ar}_1\text{-N(Ar}_4\text{)-Ar}_5$ (Ar_1 = an (un)substituted arylene group 5-42 carbons, $\text{Ar}_2\text{-5}$ = independently selected (un)substituted C6-20 aryl groups; ≥ 1 of $\text{Ar}_2\text{-5}$ = styrylphenyl represented by the general formula I; and $\text{R}_1\text{-11}$ = independently selected H, halo, (un)substituted amino (excluding diarylamino), OH, cyano, nitro, C1-6 alkyl, C1-6 alkoxy group, (un)substituted C6-18 aryl, and (un)substituted C6-18 aryloxy groups).

IT **2085-33-8**, Tris(8-hydroxyquinolinato)aluminum
265120-86-3 265120-90-9 265120-91-0
265120-92-1

(org. electroluminescent devices using styrylamino group-contg. diarylaminoarylenes)

RN 2085-33-8 ZCA

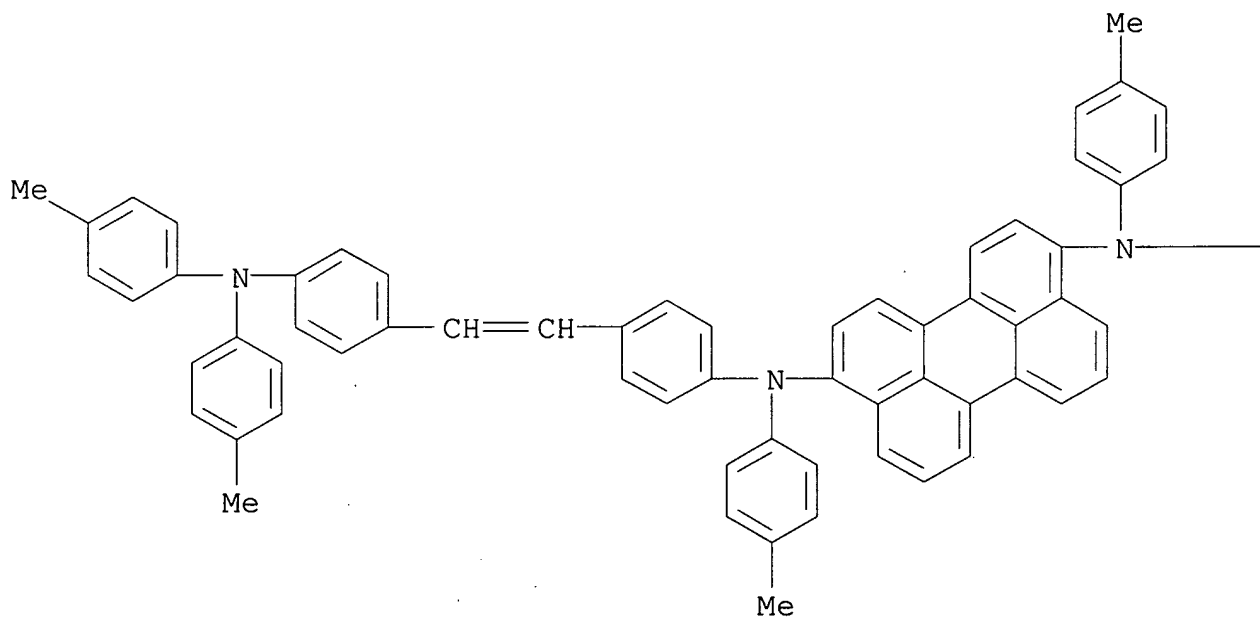
CN Aluminum, tris(8-quinolinolato- $\kappa\text{N1}, \kappa\text{O8}$)- (9CI) (CA INDEX NAME)



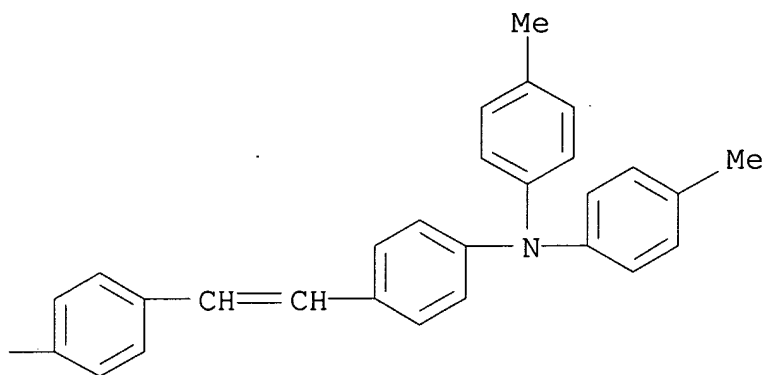
RN 265120-86-3 ZCA

CN 3,10-Perylenediamine, N,N'-bis[4-[2-[4-[bis(4-methylphenyl)amino]phenyl]ethenyl]phenyl]-N,N'-bis(4-methylphenyl)-(9CI) (CA INDEX NAME)

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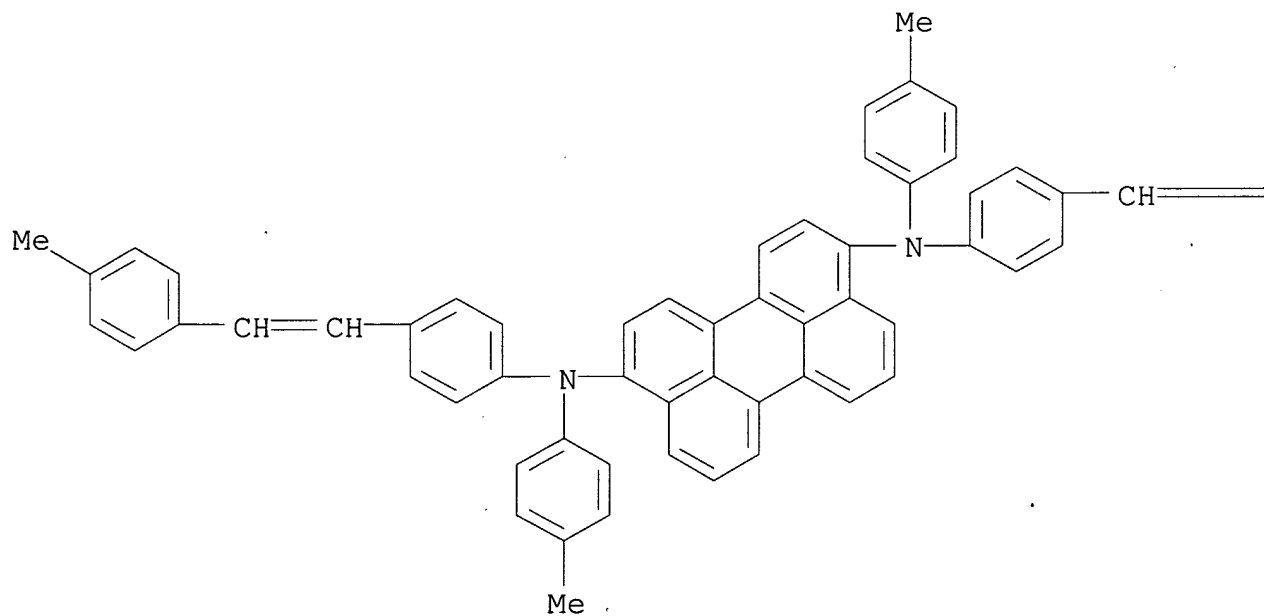
PAGE 1-B



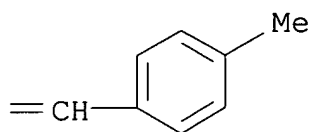
RN 265120-90-9 ZCA

CN 3,10-Perylenediamine, N,N'-bis(4-methylphenyl)-N,N'-bis[4-[2-(4-methylphenyl)ethenyl]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



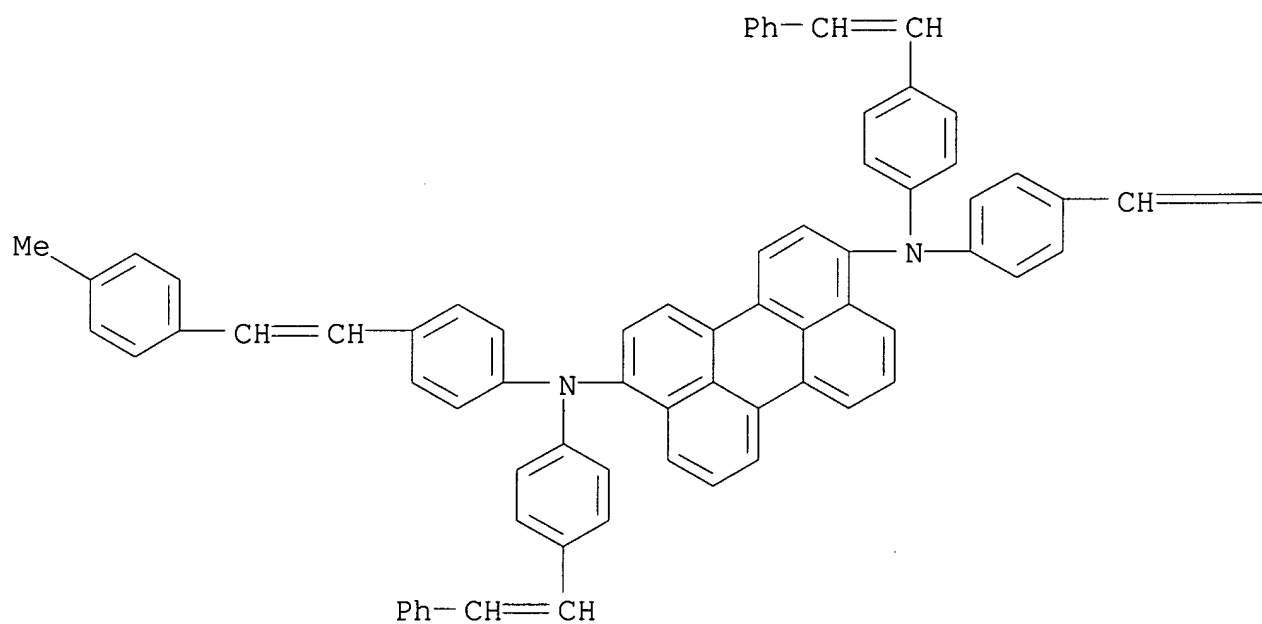
PAGE 1-B



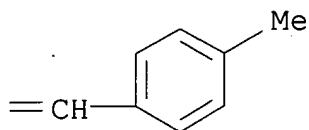
RN 265120-91-0 ZCA

CN 3,10-Perylenediamine, N,N'-bis[4-[2-(4-methylphenyl)ethenyl]phenyl]-
N,N'-bis[4-(2-phenylethenyl)phenyl]- (9CI) (CA INDEX NAME)

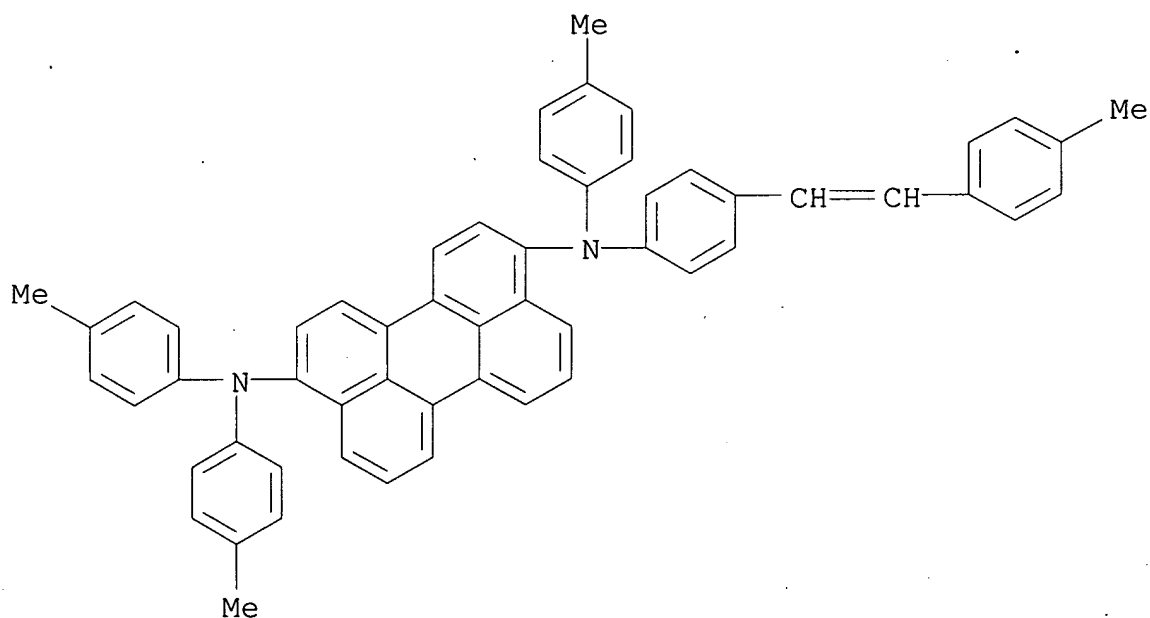
PAGE 1-A



PAGE 1-B



RN 265120-92-1 ZCA
 CN 3,10-Perylenediamine, N,N,N'-tris(4-methylphenyl)-N'-[4-[2-(4-methylphenyl)ethenyl]phenyl]- (9CI) (CA INDEX NAME)



IC ICM H01L051-20
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 76
 IT **2085-33-8**, Tris(8-hydroxyquinolinato)aluminum 15082-28-7
 37271-44-6 38215-36-0 50926-11-9, Indium tin oxide 138372-67-5
 142289-08-5 146162-49-4 146162-54-1 150405-69-9 186409-20-1
 221453-36-7 221453-37-8 221453-38-9 221453-40-3 227010-25-5
 247585-27-9 252644-43-2 252645-38-8 259143-64-1 264126-81-0
 265120-80-7 265120-81-8 265120-82-9 265120-83-0 265120-84-1
 265120-85-2 **265120-86-3** 265120-87-4 265120-88-5
 265120-89-6 **265120-90-9** **265120-91-0**
265120-92-1 265120-93-2 265120-94-3 265120-95-4

265120-96-5 265120-97-6 265120-98-7 265120-99-8 265121-00-4
(org. electroluminescent devices using styrylamino group-contg.
diarylaminoarylenes)

L37 ANSWER 9 OF 9 ZCA COPYRIGHT 2007 ACS on STN

129:295965 Organic electroluminescent device with high luminance and polycyclic phosphorescent compound therefor. Onikubo, Shunichi; Tamano, Michiko; Okutsu, Satoshi; Enokida, Toshio (Toyo Ink Mfg. Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 10251633 A2 19980922 Heisei, 59 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1997-62568 19970317.

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

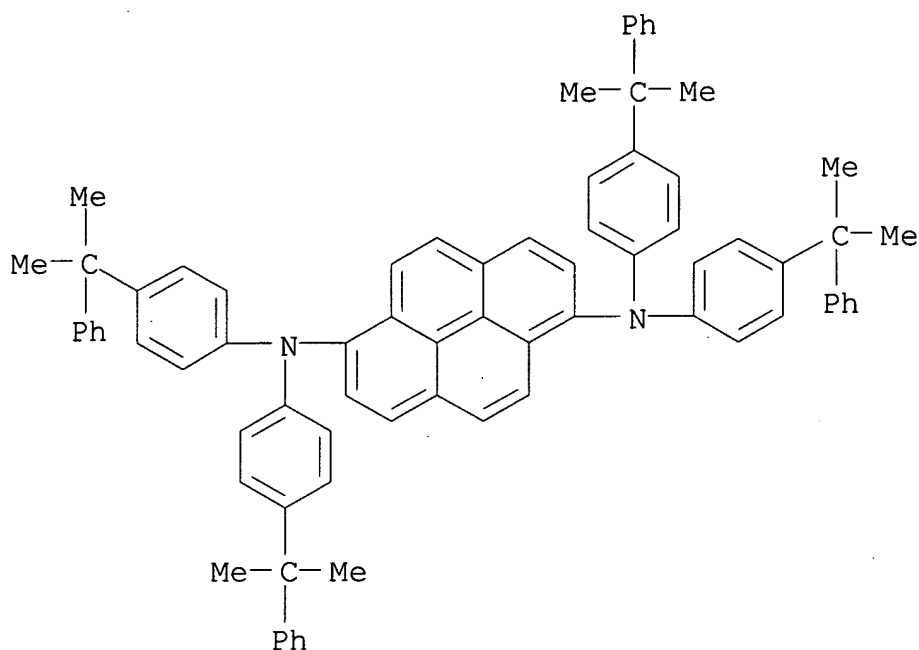
AB The claimed compd. is I [A = arom. (condensed) ring, (condensed) heterocycle excluding Q1 (E = H or linkage), bivalent group comprising ≥ 2 kinds of 2-10 above ring systems which are connected directly or via O, N, S, C1-20 chain, nonarom. cycle, where the case of A = Q3 is excluded; Ar1-4 = (condensed) arom. group; X1-4 = O, S, CO, SO₂, C_xH_{2x}O C_yH_{2y} (x, y = 0-20; x + y \neq 0), C2-20 alkyl(id)ene, bivalent alicyclic group; R1-20 = H, halo, alkyl (oxy), arom. ring, **arom.** heterocycle, **amino**]. Also claimed is an org. electroluminescent device contg. I with high luminance and good stability in repeated uses.

IT **213968-46-8 213968-48-0**

(luminescent material; org. electroluminescent device contg. polycyclic phosphorescent compd. with high luminance)

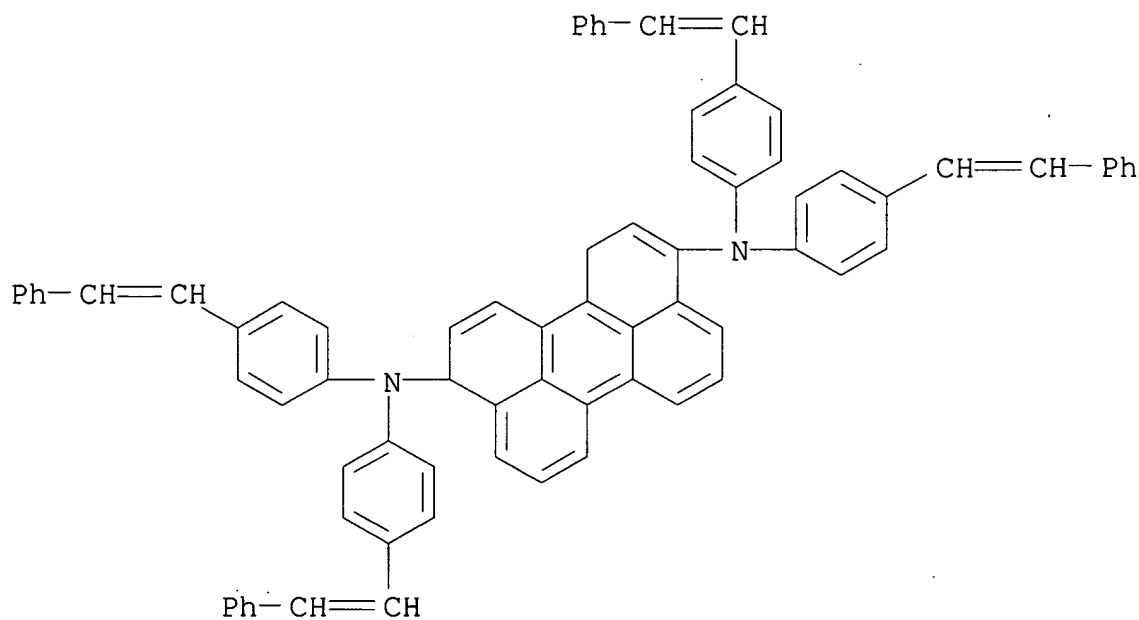
RN 213968-46-8 ZCA

CN 1,6-Pyrenediamine, N,N,N',N'-tetrakis[4-(1-methyl-1-phenylethyl)phenyl]- (9CI) (CA INDEX NAME)



RN 213968-48-0 ZCA

CN 3,10-Perylenediamine, 1,10-dihydro-N,N,N',N'-tetrakis[4-(2-phenylethenyl)phenyl]- (9CI) (CA INDEX NAME)



IC ICM C09K011-06

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related

Properties)

Section cross-reference(s): 25

IT	205697-02-5	213968-34-4	213968-36-6	213968-38-8	213968-40-2
	213968-41-3	213968-42-4	213968-43-5	213968-44-6	213968-45-7
	213968-46-8	213968-47-9	213968-48-0		
	213968-49-1	213968-50-4	213968-51-5	213968-52-6	213968-53-7
	213968-54-8	213968-55-9	213968-56-0	213968-57-1	213968-58-2
	213968-59-3	213968-60-6	213968-61-7	213968-62-8	213968-63-9
	213968-64-0	213968-65-1	213968-66-2	213968-67-3	213968-68-4
	213968-69-5	213968-70-8	213968-71-9	213968-73-1	213968-74-2
	213968-75-3	213968-76-4	213968-77-5	213968-79-7	213968-80-0
	213968-81-1	213968-82-2	213968-83-3	213968-85-5	213968-86-6
	213968-87-7	213968-88-8	213968-89-9	213968-91-3	213968-92-4
	213968-93-5	213968-94-6	213968-95-7	213968-96-8	213968-97-9
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	213969-13-2	213969-14-3	213969-15-4	213969-16-5	213969-17-6
	213969-18-7	213969-19-8	213969-20-1	213969-21-2	213969-22-3
	213969-23-4				

(luminescent material; org. electroluminescent device contg.
polycyclic phosphorescent compd. with high luminance)